

# **GENERAL SPECIFICATIONS FOR LEAD-BASED PAINT ABATEMENT**

**For**

**Project Lead-Safe KCK**

**Department of Health & Environment**

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## **INTRODUCTION AND USE**

**The Lead-Based Paint Abatement Specification for the Project Lead-Safe KCK (LSKCK) of Wyandotte County contains specification sections for the abatement of lead-based painted surfaces and items on and in the housing (buildings). The specifications address the areas and items that will typically be encountered in abating lead-based paint. The LSKCK Representative(s) who will be using and modifying these Specifications must thoroughly read and completely understand all parts and areas of this Specification, so as to be completely familiar with all requirements of all parties.**

**The Guide Specification is generalized so that they may be tailored for use on a variety of lead-based paint abatement projects. The specifications are set up so a Project Lead-Safe KCK specification writer may select and use the sections of the Guide Specification, which are applicable to a specific lead-based paint abatement project. Instructions are given to the Project Lead-Safe KCK specification writer throughout the specification section in which they are included and give general discussion on the use of the particular section or discussion on decisions that must be made by the LSKCK specifier which affect what is included in specification.**

## **DIVISION 1**

### **GENERAL REQUIREMENTS**

## SECTION 01012 - SUMMARY OF WORK

### GENERAL

#### 1.1 SUMMARY

##### A. Extent of Work

A brief summary of the various types of generic abatement strategies which are applicable to the Lead-Safe 2000 Project extent of work and binding to the contract documents are as follows. For specific abatement strategies by unit address, refer to Attachment A, which is a listing of specific abatement strategies for specific components and substrates, by dwelling unit address.

1. Removal and disposal of lead-based painted items with full containment and replacement with new components: see Section 02065 - "Removal of Lead-Based Painted Substrates".
  2. Encapsulation of lead-based paint: see Section 09802 - "Encapsulation".
  3. Enclosure of lead-based painted items with Wood, Vinyl, Metal, or Gypsum Wallboard Enclosures, see Section 06106, 06107, 05582, 09252.
  4. Physical removal of lead-based paint from a substrate: see Section 09953 - "Physical Removal".
  5. Chemical removal of lead-based paint from a substrate: see Section 09953 - "Physical Removal".
  6. Soil and exterior dust abatement, see Section 02066: "Remediation of Lead - Contaminated Soil and Exterior Dusts".
  7. Paint film stabilization of existing surface coatings, see Section 09952: "Painting"
- B. Provide all work and services in accordance with 29 CFR 1926.62; the OSHA "Lead Exposure in Construction" regulation, as outlined in Section 01094 of this specification, and all other local, state, and federal regulations which are applicable to work with or the abatement of lead hazards and lead-based paint.
- C. The abatement or interim control of lead hazards, lead containing materials, lead-based paint and/or soil and exterior dust abatement includes, but is not limited to the following:

1. Initial cleaning and preparation of the abatement areas (e.g. work area set-up) including:
  - a. Initial cleaning;
  - b. Erection of containment barriers;
  - c. Providing temporary utilities;
  - d. Construction of contaminant containment;
  - e. Construction of adequate and appropriate decontamination facilities, or bringing on-site an adequate and appropriate mobile decontamination facility; and,
  - f. Establishment of critical barriers/door flaps.
2. The abatement and/or interim control of lead-based paint and/or lead hazards (whether finish coat, intermediate coat, or prime coat paints or any paint or surface coating), any lead containing materials, and/or soil or exterior dust includes areas indicated in other sections of the specifications, on the drawings (if provided), and in A. of this section.
3. Clean all abatement areas and meet clearance standards.
  - a. Conduct thorough daily cleaning of all debris, waste, and dust.
  - b. Pass visual inspection of completion of abatement.
  - c. Pass visual inspection of completion of cleaning.
  - d. Pass dust lead wipe test clearance testing.
4. Obtain proper approval and legally dispose of all lead contaminated materials identified as hazardous or non-hazardous, based on results of hazardous waste characterization testing ( e. g., Toxicity Characteristic Leaching Procedure [TCLP] tests or other hazardous waste characterization analyses as may be necessary).
5. Provide documentation required for completion and closeout items.
6. Provide properly trained workers in accordance with the Lead Licensing and Accreditation program (Kansas Department of Health & Environment - KDHE) and other requirements of this specification.
  - a. Contractors must demonstrate that they have (or will have) a sufficient number of skilled trades and licensed abatement workers who have successfully completed EPA model curriculum training in lead-based paint abatement, so as to be able to complete all aspects of work covered.

- b. Contractors shall specify an on-site supervisor/competent person who is fully qualified in all aspects of lead abatement practices and procedures, and meets all EPA/KDHE/OSHA supervisor/competent person requirements.
- 7. Maintain records so as to comply with all applicable portions of KDHE, OSHA and EPA requirements, and other requirements of this specification.
- 8. The Contractor shall be responsible for moving all occupant personal belongings, as required by the LSKCK Representative, from the work areas to the on-site storage containers prior to the commencement of any abatement activities, and then back again once the Contractor has successfully achieved dust lead clearance.

D. Related Work

General provisions of the contract, including general and supplementary conditions, addenda, Divisions 1, 2, 5, 6, and 9 of the specifications, and other sections of the specification as may be added shall apply to the work of this section. The contract documents show the work of the contract and related requirements and conditions impacting the project. Related requirements and conditions include, but are not limited to, among other things: applicable codes and regulations, notices and permits, existing site conditions and restrictions on use of the site, requirements for partial owner occupancy during work, coordination with other work and phasing of work. Whenever there is a conflict or overlap of the above requirements, the most stringent provisions shall apply.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

3.1 DAMAGES AND COSTS

- A. All damages to the structure or property occurring as a result of any and all Contractor work and/or sub-contractor work activities or actions shall be repaired or replaced at the Contractor's sole expense, to the satisfaction of the LSKCK Representative, with no additional cost to the LSKCK or the Owner. The Contractor will not be allowed any additional time allowances or extensions for any such circumstance or event.

- B. Contractor shall be financially responsible for any and all time delays, beyond those occurring as a result of acts of God, strike, war or natural disaster. The Contractor's financial responsibility shall include, but not be limited to; any and all liquidated damages, any and all additional tenant relocation costs. All such costs for which the Contractor is responsible shall be paid for by the Contractor, in the form of a deduct change order from the original contract amount.

### 3.2 Temporary Tenant/Occupant Relocation

- A. In the majority of all circumstances, the dwelling units will be temporarily unoccupied. In this instance, the Contractor shall ensure that all tenants/occupants, their belongings and their pets are removed from the work area, the regulated area and the containment area. All tenants/occupants and their pets, and particularly pregnant women and children, are specifically prohibited from entering the regulated area, containment area and the work area at any time, until completion of the abatement process (e. g., successfully achieving final clearance), including all times when work is not in progress.

### 3.3 Daily Relocation

- A. When so approved by the LSKCK Representative, tenants/occupants may be daily relocated. In this instance, Contractor shall ensure that all tenants/occupants and their pets leave the dwelling unit and the property, each day prior to the start of work and that they only return after the Contractor has completed a thorough and proper HEPA vacuuming and cleaning of all work areas, regulated areas, containment areas and abatement personnel entry areas.

**END OF SECTION**



**SECTION 01044 - PROJECT COORDINATION**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. As a minimum, the Contractor shall meet the administrative and supervisory requirements necessary for the coordination of all work on the project concerning all personnel, emergency arrangements, and security as outlined in this specification section, as called out in other areas of the project documents and as needed for a professionally completed work product which complies with all regulatory standards, laws, guidelines, statutes, and regulations. Full or partial waivers for certain specification requirements may be provided by LSKCK, on a case-by-case basis, to facilitate the establishment of business entities meeting specific demographic qualifications and criteria.

**B. Related Work**

General provisions of the contract, including general and supplementary conditions, addenda and/or amendments as may be issued, Division 1, 2, 5, 6, and 9 specifications, and other Divisions of the specification as may be added apply to the work of this section. The contract documents show the work of the contract and related requirements and conditions impacting the project. Related requirements and conditions include: applicable codes and regulations, notices and permits, existing site conditions and restrictions on use of the site, requirements for partial owner occupancy during work, coordination with other work and phasing of work and other items as may be applicable. Whenever there is a conflict or overlap of the above requirements, the most stringent provisions shall apply.

**1.2 SUBMITTALS**

- A. Comply with the pertinent provisions of Section 01302 - Submittals. 1.3

**QUALITY ASSURANCE**

- A. Use adequate numbers of skilled workmen who are thoroughly trained, licensed and experienced in the necessary skills, crafts, and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this specification.

B. Administrative and Supervisory Personnel

Qualified and licensed abatement supervisor(s)/competent person(s) shall be provided.

The administrative personnel shall work full time for the Contractor and be dedicated to this project. These employees are the Contractor's representatives responsible for compliance with these specification,, as well as all state, local and federal requirements. Personnel employed in these positions shall be pre-approved by the LSKCK representative.

C. Non-Supervisory Personnel

An adequate number of qualified and licensed abatement personnel shall be on-site and able to meet the scheduled requirements of the project. Workers employed for abatement throughout the project shall meet the minimum qualifications. Personnel employed in this abatement work shall be pre-approved by the LSKCK representative.

D. Abatement Contractor Company

The Contractor shall: be certified as an abatement contractor by the Kansas Department of Health and Environment (2) not defaulted on any project within the last two (2) years, nor have been cited nor have been a defending party of any legal action for violation of lead abatement regulations during the last two (2) years; carry liability insurance; be licensed in whatever states he /she is doing business; have

- a written standard operating procedure for training, medical surveillance, entry and exit procedures, respiratory protection, contingency, OSHA compliance, safety, emergency, and monitoring; have available equipment, materials, and supplies in adequate quantity, efficiency, capacity, and number to properly perform the work of this project.

E. Supervisor/Competent Person

The Supervisor/Competent Person shall: have at least two (2) years abatement and/or construction experience; have completed one (1) KDHE course of specialized training in Lead-based paint abatement for supervisors, which pertains to management and supervision of Lead-based paint abatement; Have appropriate medical records and be able to meet other OSHA, EPA, local and state mandated requirements.

F. Workers

Workers shall have specialized training in: abatement construction; OSHA, EPA and KDHE regulations; -the standard operating procedures of the company; Lead-based paint hazard reduction; and, respirator protection. Workers shall have completed a course equivalent to a KDHE or EPA approved **course**. All workers shall have a license or certification required by state or local government.

## **PROJECT LEAD -SAFE KCK**

## **LEAD ABATEMENT SPECIFICATION**

### **COORDINATING ABATEMENT WORK**

- A. Project sites which have a number of different lead abatement activities, shall be coordinated in such a manner to prevent cross contamination of previously abated areas by anyone and/or anything. Work shall progress from the cleanest areas to the dirtiest areas, working towards the exit from the work area.
  - 1. The general sequence of abatement activities at one project site shall be from first to last in the following order:
    - a. Exterior lead-based paints abated;
    - b. Soil lead hazards abated;
    - c. Exterior dust lead abatement;
    - d. Interior lead-based paints abatement; and,
    - e. Interior dust lead abatement.

### **3.2 DAMAGES AND COSTS**

- A. All damages to the structure or property occurring as a result of any and all Contractor work, activities or actions shall be repaired or replaced at the Contractor's sole expense, to the satisfaction of the LSKCK Representative, with no additional cost to the LSKCK. or the Owner. The Contractor will not be allowed any additional time extensions or allowances for any such consequence or event.
- B. Contractor shall be financially responsible for any and all time delays, beyond those occurring as a result of acts of God, strike, war or natural disaster. The Contractor's financial responsibility shall include, but not be limited to; any and all liquidated damages, any and all additional tenant relocation costs. All such costs for which the Contractor is responsible shall be paid for by the Contractor shall be in the form of a Contractor deduct change order from the original contract amount.

**PROJECT LEAD SAFE 2000**  
**SPECIFICATION**

**LEAD ABATEMENT**

3.3 Temporary Tenant/Occupant Relocation

- A. In the majority of all circumstances, the dwelling units will be temporarily unoccupied throughout the duration of the abatement process. In this instance, the Contractor shall ensure that all tenants/occupants, their belongings and their pets are removed from the work area, the regulated area and the containment area. All tenants/occupants and their pets, and particularly pregnant women and children, are specifically prohibited from entering the regulated area, containment area and the work area at any time, until completion of the abatement process (e.g., successfully achieving final clearance), including all times when work is not in progress.

3.4 Daily Relocation

- A. When so approved by the LSKCK Representative, tenants/occupants may be relocated on a daily basis. In this instance, Contractor shall ensure that all tenants/occupants and their pets leave the dwelling unit and the property, each day prior to the start of work and that they only return after the Contractor has completed a thorough and proper HEPA vacuuming and cleaning of all work areas, regulated areas, containment areas and abatement personnel entry areas.

**END OF SECTION**

**SECTION 01093 - DEFINITIONS AND STANDARDS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Certain terms used in Contract Documents are defined in this section. Definitions and explanations of this section are not necessarily either complete, inclusive or exclusive, but are general for the work to the extent that they are not stated more explicitly in another element of the Contract Documents.
- B. **DEFINITIONS**
  - 1. **ABATEMENT** - Procedures to control dust, debris, waste, or any potential release from any lead-containing materials or lead-bearing surface/substance, to prepare a surface to receive new paint films, to enclose a lead-bearing surface, to encapsulate a lead-bearing surface, to remove lead-based paint and leaded stain/varnish from an item or surface, to make an area or component inaccessible, or to remove completely the item which has the lead-based paint or leaded stain/varnish on its surface. A means of permanently eliminating or reducing the potential for exposure to any surfaces containing lead. To be considered Abatement, the method/strategy must be permanent and must be known to last at least twenty (20) years. In-place management or interim controls are only considered to be temporary solutions. Any activity requiring respiratory protection, as per this project, which disturbs or has the potential to disturb any lead-containing material and/or any lead-bearing surface/substance. This includes, but is not limited to, the following activities: set up; pre-cleaning; installing polyethylene sheeting, critical barriers or barrier tape; establishment of regulated areas; stabilizing paint films; surface preparation; component or substrate removal; lead-based paint removal, encapsulation, or enclosure; removal of lead containing materials; final cleaning; and, all other activities in any way related to abatement/hazard control.
  - 2. **ACTION LEVEL** - Employee exposure, without regard to use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter (  $\mu\text{g}/\text{m}^3$  ) of air averaged over an 8-hour time period. As used in this section, "30  $\mu\text{g}/\text{m}^3$ " refers to the action level.
  - 3. **ADEQUATE ELECTRICAL POWER** - Sufficient electrical power needed to supply and properly energize all electrical equipment potentially used simultaneously by the contractor and LS2KP's representative without any degradation in voltage.

**PROJECT LEAD-SAFE KCK****LEAD ABATEMENT SPECIFICATION**

4. ADEQUATE WATER - Water availability at sufficient pressure and in adequate volumes to supply abatement, equipment and material decontamination, personal protection and decontamination, showers, cleanup, and all other decontamination needs. Adequate water supply shall mean at least a constant 15 minute uninterrupted supply.
5. AIR LOCK - A system for permitting ingress or egress to a work area, without permitting air movement from a contaminated area into an uncontaminated area, usually consisting of three sheets of overlapping 6-mil thick polyethylene, secured along alternating vertical edges and at the top.
6. AREA MONITORING - Sampling of lead concentrations within the work area inside the physical boundaries, and outside the work area, which is representative of the airborne lead concentrations which may reach the breathing zone of personnel and/or the general public.
7. CONSULTANT - An independent third party firm, group or person(s) (selected by LS2KP and/or its designated, authorized representatives).
8. CONTAMINATED WASTE - Lead contaminated materials, dust, water, waste, and/or debris.
9. CONTRACTOR - The abatement firm awarded a contract to conduct lead hazard control/abatement.
10. CRITICAL BARRIER - A barrier consisting of the ceiling, walls, floor, and other air tight structures of the building, polyethylene sheeting and support framing as necessary, sealed with duct tape, covering any and all penetrations and openings, such as, but not limited to; corridors to other areas of the building, doors, windows, flues, vents, drains, decontamination facilities, uncontaminated fixed furnishings, and stationary objects, such as electrical boxes, to separate and seal the abatement area from uncontaminated parts of the building. Doors not required for access or egress shall be locked/secured and additionally sealed around door edges with duct tape or other appropriate means on the opposite side. Windows shall be covered with layers of 6-mil polyethylene on the removal side. Any penetrations to the outside of the building shall be additionally sealed on the outside.

**PROJECT LEAD-SAFE KCK**

**LEAD ABATEMENT SPECIFICATION**

11. DECONTAMINATION FACILITY/UNIT - Area for the cleaning and removal of contaminated personal protective equipment (PPE), as well as the decontamination of all personnel. The five-stage decontamination unit (through which all abatement personnel must pass upon entering and exiting the work area) shall be constructed of 6-mil polyethylene sheeting and consist of a dirty room, airlock, shower, airlock, and clean room in sequence. As an alternative, an appropriate and proper mobile decontamination facility may be used, providing that it at least meets all requirements for proper and thorough decontamination.
12. ENCLOSURE - For the purposes of this specification, the barrier established by the Contractor to prevent leakage of contamination to occupied or other areas outside the work area. It also serves the Contractor as an aid by protecting the critical barrier from contamination and to expedite clean-up work.  
  
Also, an abatement strategy which is utilized by mechanically affixing an impenetrable barrier over a lead containing material/surface, so as to reduce the potential for exposure to that lead surface. This abatement strategy must be known to last at least twenty (20) years.
13. HIGH EFFICIENCY PARTICULATE AIR (HEPA) FILTER - A filter capable of filtering out monodispersive particulates having a 0.3 micron or greater diameter from a body of air at a 99.97 percent efficiency or greater.
14. LEAD-BASED PAINT - Paint containing equal to or greater than 0.5 percent (or 5,000 parts per million [PPM]) by weight of lead ( by laboratory analysis), or greater than or equal to 1.0 milligram per square centimeter ( by X-ray fluorescence). This definition includes any and all layers of all primer coats, intermediate coats, and finish coats.
15. LEAD HAZARD CONTROL - any and all means or procedures to reduce or eliminate the potential for exposure to any and all lead containing materials and lead-bearing surfaces/substances, whether temporary or permanent. Lead hazard control can be interim controls, in-place management and/or abatement.
16. LEAD PERMISSIBLE EXPOSURE LIMIT (PEL) - Fifty micrograms per cubic meter ( $50 \mu\text{g}/\text{m}^3$ ) of air as an 8-hour time weighted average as determined by 29 CFR 1926.62. As used in this section, " $50 \mu\text{g}/\text{m}^3$ " refers to the PEL.

## **PROJECT LEAD-SAF EKCK**

## **LEAD ABATEMENT SPECIFICATION**

17. LOAD OUT - An area through which material and equipment are passed into the Removal Area and through which bags containing contaminated waste and contaminated equipment are cleaned and passed to the outside from the Removal Area. The cleaning process shall consist of HEPA vacuuming and wet-washing (ensuring complete decontamination) of all bags, drums, equipment, tools, or other items leaving the work area.
18. OWNER-The actual Owner of a dwelling unit/property on which abatement and/or interim control processes will occur.
19. PERSONAL MONITORING - Sampling of lead concentrations within the breathing zone of an employee to determine the 8-hour time weighted average concentration in accordance with 29 CFR 1926.62. Samples shall be representative of all of the employee's work tasks. Breathing zone shall be considered an area within a hemisphere, forward of the shoulders, with a radius of 6 to 9 inches and the center at the nose or mouth of an employee.
20. PROJECT LEAD-SAFE KCK (LSKCK) - A project funded by the US Department of Housing and Urban Development (HUD) to the Kansas Department of Health & Environment , and administered by it's personnel and/or it's duly authorized representatives. The intended purpose of the project is to control lead hazards.
21. SECURITY BARRIER - A temporary wall of 1/2-inch thick CDX plywood on 2" by 4" stud construction at 16" o.c., floor to ceiling, to assure work areas are not entered by unauthorized personnel and to prevent accidental breaching. Where convenient, doors locked by and under the control of the Contractor may be used as a security barrier only after work hours. The work area side of Security Barriers shall be lined with reinforced polyethylene, sealed with duct tape and stapled where possible without damaging surfaces of floors, walls, and ceilings, prior to erection of removal enclosures.
22. VISIBLE DEBRIS - Any material containing lead or not containing lead that was generated or created as a result of any activity associated directly or indirectly with the abatement or hazard control project.
23. WET WASH SOLUTION - Solution containing trisodium phosphate (TSP) and water that is mixed to form a 5% solution, or a non-TSP lead removal detergent (e.g. LEDIZOLV or equivalent) that is mixed into a solution in accordance with manufacturer's directions.



24. **WORK/REGULATED AREA** - Indoors, the area within or being prepared for critical barriers or containment areas in which abatement or interim controls of lead-containing substances will, is or have taken place until acceptable visual inspections and successful final clearance sampling have been accomplished. Outdoors, the area usually within ten (10) feet of abatement or interim control operations which concern the control of lead hazards and/or the removal of lead containing materials, lead-bearing surfaces/substances or lead-based painted items, until acceptable visual inspections and successful final clearance sampling have been accomplished.

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**PROJECT LEAD-SAFE KCK**

**LEAD ABATEMENT SPECIFICATION**

**PART2-PRODUCTS**

Not used.

**PART 3 - EXECUTION**

Not used.

**END OF SECTION**

**SECTION 01094 - CODES AND REGULATIONS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. All work shall conform to the standards set by applicable federal, state, and local laws, regulations, statutes, ordinances, and guidelines in such form in which they exist at the time of the work on the contract and as may be required by subsequent revisions. While the following is not meant to be construed as, nor shall the Contractor shall consider it to be, an all-inclusive list, this project is at least subject to compliance with the most current issue of the following regulations and publications:

1. U.S. Department of Labor, Occupational Safety and Health Administration (OSHA):
  - a. 29 CFR 1910, *General Industry Standard*
  - b. 29 CFR 1910.20, *Access to Employee Exposure and Medical Records*
  - c. 29 CFR 1910.21, *Walking/ Working Surfaces*
  - d. 29 CFR 1910.28, *Safety Requirements for Scaffolding*
  - e. 29 CFR 1910.30, *Other Working Surfaces*
  - f. 29 CFR 1910.94, *Abrasive Blasting*
  - g. 29 CFR 1910.134, *Respiratory Protection*
  - h. 29 CFR 1910.145, *Signs and Tags*
  - i. 29 CFR 1910.1025, *Occupational Exposure to Lead* (General Industry)
  - j. 29 CFR 1910.1200, *Hazard Communication*
  - k. 29 CFR 1926, *Construction Industry Standard*
    - l. 29 CFR 1926.20, *General Health and Safety Procedures*
    - m. 29 CFR 1926.21, *Safety Training*
    - n. 29 CFR 1926.25, *Housekeeping*
    - o. 29 CFR 1926.28, *Personal Protective Equipment*
    - p. 29 CFR 1926.51, *Sanitation*
    - q. 29 CFR 1926.52, *Occupational Noise Exposure*
    - r. 29 CFR 1926.55, *Gases, Vapors, Fumes, Dusts, and Mists*
    - s. 29 CFR 1926.57, *Ventilation*
    - t. 29 CFR 1926.59, *Hazard Communication*
    - u. 29 CFR 1926.62, *Lead Exposure in Construction*
    - v. 29 CFR 1926.103, *Respiratory Protection*
    - w. 29 CFR 1926.200, *Accident Prevention Signs and Tags*
    - x. 29 CFR 1926.353, *Ventilation and Protection in Welding, Cutting, and Heating*
    - y. 29 CFR 1926.354, *Welding, Cutting, and Heating in Way of Preservative Coatings*

2. U.S. Environmental Protection Agency (EPA):
  - a. 40 CFR 260, *General Regulations for Hazardous Waste Management*
  - b. 40 CFR 261, *Identification and Listing of Hazardous Waste*
  - c. 40 CFR 262, *Standards Applicable to Generators of Hazardous Waste*
  - d. 40 CFR 263, *Standards Applicable to Transporters of Hazardous Waste*
  - e. 40 CFR 264, *Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities*
  - f. 40 CFR 265, *Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities*
  - g. 40 CFR 268, *Land Disposal Restrictions*
  - h. 40 CFR 302, *Designation, Reportable Quantities (RQs) and Notification*
  - i. 40 CFR 745, *Lead; Requirements for Lead-Based Paint activities in Target Housing and Child Occupied Facilities; Final Rule*
3. U.S. Department of Transportation (DOT):
  - a. 49 CFR 172, *Hazardous Materials Tables and Hazardous Materials Communications Regulations*
  - b. 49 CFR 178, *Shipping Container Specification*
4. American National Standards Institute (ANSI):
  - a. Publication Z288.2-80, *Practices for Respiratory Protection*
  - b. Publication Z9.2-79, *Fundamentals Governing the Design and Operation of Local Exhaust Systems*
5. U.S. Department of Health and Human Services, National Institute of Occupational Safety and Health (NIOSH):
  - a. Publication 84-100 and updates, *NIOSH Manual of Analytical Methods*
6. U.S. Department of Housing and Urban Development (HUD):
  - a. "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards Housing"

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7. Underwriters Laboratories, Inc. (UL)
  - a. Publication UL586, (1977; R 1982) *Test Performance of High Efficiency Particulate Air Filter Units*
8. Kansas Department of Health & Environment
  - a. 19 CSR 20-80.020, *Licensing of Lead Inspectors, Lead Abatement Workers and Lead Abatement Supervisors/Contractors*

**QUALITY ASSURANCE**

- A. All regulations by the above and other governing agencies in their most current version are applicable throughout this project. Where there is a conflict between this document and the cited federal, state, or local regulations or guidelines, the more restrictive or stringent requirements shall prevail. This section refers to many requirements found in these references, but in no way is it intended to cite or reiterate all provisions therein or elsewhere. It is the Contractor's responsibility to know, understand, and abide by all such regulations, statutes, ordinances, guidelines, and appropriate/common industry practices.

**PART 2- PRODUCTS**

Not used.

**PART 3 - EXECUTION**

Not used.

**END OF SECTION**

## **PROJECT LEAD-SAFE KCK**

## **LEAD ABATEMENT SPECIFICATIONS**

### **SECTION 01302 - SUBMITTALS**

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

- A. Submittals described in Part 3 - Execution will be required to be completed by the Contractor.
- B. Submittals shall be submitted with multiple copies as noted at the times indicated. PART 2 -

#### **PRODUCTS**

Not used.

#### **PART 3 - EXECUTION**

##### **3.1 SUBMITTALS**

- A. Submittal with Bid

The Contractor shall submit one copy of the following qualifications with the bid form(s):

1. A list of a minimum of five references of persons who can attest to the quality of work performed by the Contractor.
2. Submit evidence of the successful completion of KDHE/EPA approved training course(s) covering lead-based paint abatement for all proposed Workers and Supervisors. The training shall be a minimum two (2) day training period for workers and four (4) days for supervisors.
3. Demonstrate experience in performing previous lead-based paint abatement projects. Submit a list of at least three prior lead-based paint abatement contracts including the names, addresses, and telephone numbers of building owners for whom the projects were performed. In rare circumstances, inexperienced contractors may be qualified if they can demonstrate exceptional qualifications in other contractor standards and abilities. Submit construction project information about other type of construction experience if projects relating to lead-based paint abatement are not available.

**PROJECT LEAD-SAFE KCK****LEAD ABATEMENT SPECIFICATIONS**

4. Submit copies of KDHE licenses for all abatement workers and abatement supervisors who will be on-site at any time during all abatement operations. All abatement personnel will be required to show immediate proof of KDHE licensure at all times that any abatement personnel is on-site. At least one (1) lead abatement supervisor will be required to be on-site at all times during the conduct of any set-up, abatement and clean-up work.
5. Provide a description of any lead-based paint abatement project or other type of construction project which was prematurely terminated, including the circumstances surrounding the termination, provide the name of the project, the Owner's representative name, and the Owner's address and telephone number. If none, provide a signed statement indicating "none".
6. Provide a list of any contractual penalties that the Contractor has paid for the breach or noncompliance with the contract specifications, such as overruns of completion time or liquidated damages. Provide the name of the project, the Owner's representative, the address of the Owner, and his telephone number. If none, provide a signed statement indicating "none".
7. Submit information about any citation levied against the Contractor by any federal, state, or local government agencies for violations related to lead-based paint abatement, identify the name or location of the project, the date(s), details of the citations, and how the allegations were resolved. Submit the name of the agency that wrote the violation, the name of the person in the agency most familiar with the circumstances of the violation, the address and the telephone number of the agency. If no violations, provide a signed statement indicating "none".
8. Submit a description detailing all legal proceedings, lawsuits or claims that have been filed or levied against the firm or the Owner of the firm for lead-based paint abatement. Submit applicable names, addresses, and telephone numbers.
9. Provide evidence that the Contractor has been in business a minimum of two (2) years. This requirement may be waived if the Contractor can demonstrate that he/she has exceptional construction trades experience.
10. Provide copies of all appropriate training certifications and licenses for all persons employed on this project, as required by this specification and other local, state, and/or federal regulations.

## **PROJECT LEAD-SAFE KCK**

## **LEAD ABATEMENT SPECIFICATIONS**

11. Provide signed copies of certificates of insurance which show that the Contractor has the insurance as required by the Project Lead-Safe KCK, naming the Department of Health & Environment as an additional insured.
  12. Provide a signed letter statement that clearly states that each dwelling unit being bid on can be properly, successfully and professionally completed and accomplished within a maximum fourteen (14) calendar day timeframe.
  13. Provide a unit price cost, in square feet, linear feet or per item, as appropriate, for each component and for each abatement strategy utilized per component. This information will be used to calculate change order additions and deletions. Failure to provide unit costs for each abatement strategy, by component, will be considered as cause for rejection of bids.
- B. Pre-Work Submittals
1. The Contractor shall provide two (2) copies of the Pre-Work Submittals at least seven (7) calendar days prior to the commencement of any and all abatement process activities, to the Project Lead-Safe KCK's Representative. Receipt of the Pre-Work Submittals by the Project Lead-Safe KCK's Representative shall not be construed to mean approval of those submitted items or materials. The following information shall be included:
    - a) Copies of all notifications, EPA hazardous waste generator identification numbers, permits, applications, licenses, and similar documents required by federal, state, or local regulations, obtained or submitted in proper fashion;
    - b) Copies of Contractor's licenses and copies of each Supervisor's and Worker's license and training certificates (that will be working on the project), with a signed verification that all licenses are current and cover all federal, state, and local requirements to complete the work legally and properly. Written Chain-of-Command of responsibility at the work site including supervisors, foreman, workers, and competent person, their names, certificates of training, work phone numbers, mobile phone numbers, pager numbers, and other phone numbers that allow for accessibility by telephone, 24 hours a day;
    - c) Copies of any written letters from the Project Lead-Safe KCK's Representative indicating what (if any) proposed procedures, methods or equipment which differ from the contract specifications were submitted to the Project Lead-Safe KCK, by the Contractor at least five days prior to bids being taken and were accepted by the Project Lead-Safe KCK's Representative for substitution.



**d) PROJECT LEAD-SAFE KCK      LEAD ABATEMENT SPECIFICATIONS**

- e) Copies of OSHA medical records of each employee or a notarized statement by the examining physician that such OSHA required Lead Exposure examinations took place within the last six (6) months (or less), as may be appropriate or required, as well as information detailing the scope of the examinations. The examination shall be specific for lead and must comply with OSHA Standards. The Doctor's statement or records must contain a statement that indicates the medical examinations were performed in compliance with OSHA Lead Exposure In Construction Regulations (29 CFR 1926.62). The records must contain a doctor's statement that indicates that the each individual person proposed for work on the project is approved for all assigned lead-based paint abatement work activities, listing any limitations of that persons work activities;
- f) Record of successful respirator fit testing performed by a qualified individual (acceptable to the Project Lead-Safe KCK's Representative) within the previous six months for each employee to be used on this project;
- g) The name and address of the occupational health clinic and the attending physician that has performed the OSHA lead specific physical exam on all persons that will be working on the project;
- h) The name and address of the laboratory conducting the personal breathing zone (OSHA air monitoring analysis, and ambient air monitoring analysis, and proof of participation in the American Industrial Hygiene Association's National Lead Laboratory Accreditation Program (NLLA)
- i) Proposed Emergency Plan and route of egress from work areas in case of fire or injury, including the name and phone number of the nearest medical emergency assistance center, fire department, police department, and hazardous materials emergency response team. The Emergency Plan shall also address power failure, failure of negative air or supplied air systems (if used), or any other event that may require modification of standard operating procedures during abatement;
- j) department, and hazardous materials emergency response team. The Emergency Plan shall also address power failure, failure of negative air or supplied air systems (if used), or any other event that may require modification of standard operating procedures during abatement;
- k) The Contractor must supply documents that detail the facility(ies) to be used for ultimate hazardous and non-hazardous waste disposal. Documents from these disposal sites must be supplied to the Project Lead-Safe KCK's Representative stating that hazardous and/or construction waste will be accepted by these facilities. In addition, the Contractor must submit documents from these sites proving that they are licensed/permitted to accept such waste and will accept the waste proposed by the Contractor for ultimate disposal. Waste transfer routes shall also be specified;
- l) Proof of EPA mandated requirement which clearly shows that the Owner and/or occupants have been provided with the EPA pamphlet entitled: *"Protect you family from lead in your home.*
- m) Proposed heating and/or cooling system to be used (if any); and,
- n) Proposed bar-graph and phasing schedule showing the time involved from start to finish of abatement operations, including all sequencing of all work, including: locating and quantifying all items to be removed and all items from which paint will be removed; pre-cleaning, construction of containment barriers, and other preparations; clean-up; clearance testing; tear-down; and reconstruction. The Phasing Schedule shall indicate completion dates for 25%, 50%, 75%, and 100% completion of the project.

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C. Post-Abatement Submittals

The Contractor is required to submit the following to the Project Lead-Safe KCK after abatement completion:

1. Copies of the disposal manifests and receipts acknowledging disposal of all hazardous and non-hazardous waste material from the project, indicating transporter, delivery date, quantity, and appropriate signature of receiving landfill's authorized representative (within a maximum of 40 days after job completion);
2. A notarized copy of the daily entry-exit logbook (within a maximum of 7 days after job completion); and,
3. Contractor must prepare and properly execute a statement certifying that all abatement work was performed and completed in compliance with all applicable federal, state, and local regulations, as well as in compliance with all conditions specified in these specifications (within a maximum of 7 days after job completion).

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4. Contractor must prepare and properly execute a statement certifying to the Owner that abatement or interim controls (specifying which) took place within and on the Owner's property, detailing each and every component, item and/or substrate addressed, in every room or area of the property (within a maximum of 7 days after job completion).

**END OF SECTION**

**SECTION 01303 - INSURANCE**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Provide Insurance for the lead-based paint abatement and construction project; the following types and dollar amounts.
  - 1. Comprehensive general liability: \$ 1,000,000.00 per occurrence.
  - 2. Commercial automobile liability: \$ 1,000,000.00 per occurrence.
  - 3. Workmen's compensation: as required by Federal and State worker's compensation and occupational disease laws.
  - 4. Pollution Liability coverage: \$ 1,000,000.00 per occurrence.
  - 6. Others as required by Federal or State law.
- B. The Contractor shall, at its own expense, provide and maintain during the entire performance period of this contract at least the kinds and minimum amounts of insurance required in the above Schedule or elsewhere in this specification or as indicated in the "front end" portions of the contract documents.
- C. Prior to commencing work under this contract, and as required under Section 01302 - "Submittals", the Contractor shall certify to the Project Lead-Safe KCK Representative in writing that the required insurance has been obtained. The policies evidencing required insurance shall contain an original endorsement to the effect that any cancellation or any material change adversely affecting the Project Lead-Safe KCK interest shall not be effective (1) for such period as the laws of the State in which the contract is to be performed prescribe or (2) until 30 days after the insurer or the Contractor gives written notice to the Project Lead-Safe KCK, whichever period is longer.
- D. The Contractor shall insert the substance of this clause, including this paragraph (D), in subcontracts under this contract that require work by subcontractors and shall require subcontractors to provide and maintain the insurance required in the Schedule or elsewhere in the specifications or contract. The Contractor shall maintain a copy of all subcontractors' proofs of required insurance, and shall make copies available to the Project Lead-Safe KCK Representative upon request.

**PROJECT LEAD-SAFE KCK ABATEMENT SPECIFICATION**

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

**END OF SECTION**

**SECTION 01421 - PROJECT CLEARANCE**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Maintain records regarding all exposure monitoring air sampling and all medical monitoring physical examination in accordance with the Occupational Safety and Health Administration (OSHA) requirements. The Contractor shall meet all record keeping requirements of 29 CFR 1926.62 and 29 CFR 1910.20.
- B. Related Work
  - 1. Documents affecting the work of this section include, but are not necessarily limited to General Conditions, Supplementary Conditions, Sections in all Divisions of this specification and as shown on the drawings (if provided).
  - 2. Decontamination of all personnel leaving the containment area.
  - 3. Decontamination of Equipment, Tools, Containerized waste and all other items leaving the Work/Containment Area.
  - 4. Decontamination of the Containment work area to prepare it for Project Clearance.

**1.2 SUBMITTALS**

- A. Comply with the pertinent provisions of Section 01302 - Submittals. 1.3

**QUALITY ASSURANCE**

- A. Use adequate numbers of skilled workmen who are thoroughly trained, licensed and experienced in the necessary skills, crafts, and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this specification.

**PART 2- PRODUCTS**

Not used.

**PART 3 – EXECUTION****3.1 MONITORING, INSPECTION, AND TESTING A.****Personal and Area Air Sampling**

1. Personal air sampling (OSHA required monitoring) activities must be conducted by the Contractor or his duly authorized representative during lead-based paint abatement work or any other work involving lead containing materials. The results of such sampling shall be posted, provided to individual workers within the OSHA required timeframe, and submitted to the Project Lead-Safe KCK's Representative within 24 hours after Contractor receipt of results. Contractor must ensure analytical result receipt no later than 5 calendar days after sample collection.
2. The Contractor's air sample testing lab shall be an independent third party and shall be a successful participant in the National Lead Laboratory Accreditation Program (NLLAP). Air sample analyses will be by NIOSH Method 7082.
3. Air samples shall be taken for the duration of the work shift or for a minimum of seven hours at the Contractor's expense. Personal samples must also be taken every time there is a change in the removal operation, either in terms of the location, the type of work, method of abatement, method of engineering control, change in the personnel completing abatement or other change in abatement process that might affect the exposure to lead of the workers. Sampling will be used to determine eight-hour Time-Weighted Averages (TWA). Personal air sampling will be conducted as outlined in NIOSH Method 7082 and OSHA Standard 29 CFR 1926.62. The laboratory results of the air sampling will determine the degree of respiratory protection and decontamination required, subject to the regulations. It will also help determine other safety requirements for the workers, as well as the engineering controls that are required. It will help evaluate the effectiveness of engineering controls and worker protection measures. All air sampling will be solely at the Contractor's expense.
4. Air sampling results shall be submitted to the Project Lead-Safe KCK's Representative and individual workers available at the job site in written form no more than 5 days after the completion of a sampling cycle. The reporting document shall list each sample's result, sampling time and date, personnel's name who were monitored and their social security number, flow rate, cassette size, analysts' name, laboratory name and laboratory's NLLAP accreditation number, certificate copy. The document shall include an interpretation of the results. All air samples analysis results shall be reported in  $\text{gg}/\text{m}^3$



**PROJECT LEAD-SAFE KCK****LEAD ABATEMENT SPECIFICATION**

5. Air Monitoring Frequency. The air monitoring frequency for Contractor operations shall at least be established in accordance with the requirements set forth in 29 CFR 1926.62.
6. At the sole discretion of the Project Lead-Safe KCK's Representative, additional samples may be collected from workers (non-OSHA compliance) inside and outside containment (or work area). The Contractor shall extend full cooperation to the Project Lead-Safe 2000's Representative conducting air sampling. Additional sampling and analyses shall be at the Project Lead-Safe 2000's expense.

**B. Inspections**

In addition to various daily inspections of the lead work area and abatement practices, the Project Lead-Safe KCK's Representative will make four (4) mandatory inspections during the abatement work, one during each of the following phases of abatement. Each inspection must be requested by the Contractor to be performed by the Project Lead-Safe KCK's Representative. The Project Lead-Safe KCK's Representative must approve the inspected work before work may begin for the next phase of work. Failure on the part of the Contractor to obtain the Project Lead-Safe KCK Representative's approval before proceeding to the next scheduled phase is regarded as a violation of the Project Lead-Safe KCK/Contractor contract. In the event of this occurring, the Project Lead-Safe KCK's Representative may recommend that all work be stopped until all required work is shown to be completed to the satisfaction of the Project Lead-Safe KCK's Representative. The four inspections are as follows:

1. Work area preparation completed - Contractor shall have all Pre-Abatement preparations of the work area completed and approved by the Project Lead-Safe KCK's Representative before proceeding to the next step.
2. Completion of lead-based paint abatement – Contractor shall have all abatement work completed, inspected, and approved before moving to the next step.
3. Completion of final cleaning inspection - Contractor shall have the final clean up of all visible debris, waste, dust and residue approved before moving to the next step. The Contractor shall perform final cleaning techniques of HEPA vacuuming, washing with lead removal agent, and HEPA vacuuming before requesting final clearance sampling. Final clearance sampling will not occur until all surfaces are completely dry.

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4. Final Clearance Sampling ;Project Lead-Safe KCK's Representative will perform final clearance wipe testing after final clean-up activities are completed and surfaces have been properly sealed with appropriate approved materials for the substrate. Contractor must keep the Project Lead-Safe KCK's Representative ' constantly updated, as to the units and/or building areas that have received final clean-up and are ready for final clearance wipe sampling. The Contractor shall notify the Project Lead-Safe KCK's Representative at least 24 hours in advance of the need for clearance wipe sampling.
5. A final punch list inspection is also required after all work is completely installed, finished, waxed, sealed, painted, and/or cleaned.

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**PROJECT LEAD-SAFE KCK****LEAD ABATEMENT SPECIFICATION**

- C. At the sole discretion of the LSKCK Representative, the following Clearance Wipe Tests may be taken in the numbers and areas shown, after the final cleaning phase has been completed and the Contractor has requested that Clearance Dusts Wipes be taken.

Type of Abatement Procedure	Number and Location of Wipe Samples
On-site paint removal throughout the living unit or building area	At least 3 wipe samples in each room* abated (if windows are present; otherwise one sample for each room): 1 window trough (well); 1 window sill; and, 1 floor.
On-site paint removal in limited areas of living unit or building	At least 3 wipe samples in each room* abated (if windows are present; otherwise just one sample for floor): 1 window trough (well); 1 window sill; 1 floor; and, 1 sample outside the containment area (within 10 feet) in 20% of the abated units
Replacement, interim controls, enclosure and/or encapsulation only throughout the living unit or building area	At least 1 wipe sample in each abated room*, divided equally between window troughs (wells), window sills, and floors (if windows are present; otherwise just one sample for floor)
Replacement, interim controls, enclosure and/or encapsulation only in limited areas divided equally between window troughs living unit or building area	At least 1 wipe sample in each abated room*, (wells), windows sills, and floors (if windows are present; otherwise just one sample for floor) AND 1 sample outside the containment area (within 10 feet) in 20% of the abated units
Exterior lead-based paint abatement/interim	At least 1 wipe test on a horizontal surface on controls, Exterior dust abatement and/or Soil part of outdoor living area (e.g., front porch), abatement one for each side of building on which abatement is taking place.

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**NOTE:** Other areas and surfaces may also have wipe samples taken, at the sole discretion of the Project Lead-Safe KCK's Representative, to help determine the quality of the Contractor's work.

- b. Clearance Standards. The standards for passing a clearance wipe test are:

Floors: less than 50 micrograms of lead per square foot ( $< 50 \mu\text{g}/\text{ft}^2$ )

Window sills: (and exterior  $< 250 \mu\text{g}/\text{ft}^2$  horizontal surfaces)

Window troughs (wells):  $< 800 \mu\text{g}/\text{ft}^2$

- c. Retests and Associated Costs. Should laboratory results indicate that the wipe test clearance level is exceeded, the Contractor shall reclean the affected area, at no additional cost to the Project Lead-Safe KCK or the Owner, utilizing the procedures specified previously (i.e., HEPA vacuum, wet wash with lead removal agent, and HEPA vacuum). Retesting will then be performed once the Contractor has notified the Project Lead-Safe KCK's Representative in writing that recleaning has been completed and the work area is ready for retesting. Contractor shall pay for all additional testing and provide, at no additional cost, for recleaning of effected area until the clearance level is achieved. Contractor shall be required to pay the Project-Lead-Safe KCK a fee of \$50.00 per sample, for each sample collected and analyzed and for each hour (at \$25 per hour) for Project Lead-Safe KCK's Representative's time required to resample, resulting from rooms/areas failing clearance wipe test sampling. The Contractor shall also be financially responsible for all ancillary costs associated with time delays of the project, including, but not limited to; liquidated damages, tenant relocation costs and tenant personal belonging storage container(s) costs. All costs as indicated above shall be deducted in a deduct change order from the Contractor's contract amount.

### **END OF SECTION**

**SECTION 01504 - TEMPORARY FACILITIES**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. The Contractor shall confine operations at the site to the areas permitted under the contract. Other areas shall not be disturbed nor entered. All site rules and regulations shall be followed during the project.
- B. Related Work
  - 1. Documents affecting the work of this section include, but are not necessarily limited to General Conditions, Supplementary Conditions, Sections in all Divisions of this specification and as shown on the drawings (if provided).

**1.2 SUBMITTALS**

- A. Comply with the pertinent provisions of Section 01302 - Submittals. 1.3

**PROJECT/SITE CONDITIONS**

(NOTE: THE PROJECT LEAD-SAFE KCK LEAD-BASED PAINT ABATEMENT SPECIFICATION WRITER MUST CHOOSE THE APPROPRIATE "A" ITEMS FROM THE FOLLOWING)

- A. The Contractor shall be provided with area(s) as selected by the Project Lead-Safe KCK for use as an on-site operations.
  - 1. The Contractor shall provide sanitary facilities, break areas and lunch areas as necessary in accordance with all applicable regulations. The sanitary facilities shall be kept clean and in working condition at all times during the project. Contractor shall comply with OSHA regulations regarding sanitary facilities.
- B. The Contractor shall keep all streets and entrances serving the premises clear and available to the Project Lead-Safe KCK, residents, and the general public during the project. All deliveries shall be scheduled to minimize space and time requirements for storage of materials and equipment on the site.

- C. Contractor's vehicles shall not be allowed on lawns (except for emergencies), unless approved by the Project Lead-Safe KCK Representative. If the Contractor's vehicles or work activities damage any lawn areas, the Contractor shall pay all costs associated with returning the damaged areas to original condition. This shall include regrading and new grass stands as necessary, to the Project Lead-Safe KCK's satisfaction. The Contractor shall guarantee viability of new grass stands for a minimum period of one year.
- D. Contractor shall place the hazardous and non-hazardous waste disposal dumpsters in an area approved by the Project Lead-Safe KCK Representative or as described in this specification.
- E. Adjacent structure(s) will be occupied during the entire abatement/construction period. The Contractor shall cooperate with the Project Lead-Safe KCK during project operations to minimize conflicts. Work shall be performed so as not to interfere with the Project Lead-Safe KCK's and/or adjacent occupant's operations.

#### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Materials may be stockpiled in an area of the site as instructed by the Project Lead-Safe KCK Representative. The Contractor shall assume all responsibility for security and safety of all items stored.

#### PART 2 - PRODUCTS

Not used.

#### PART 3 - EXECUTION

Not used.

**END OF SECTION**

**SECTION 01506 - WORK AREA CONTAINMENT**

**PART 1 - GENERAL**

**1.1 SUMMARY**

All interior lead-based paint (LBP) abatement (physical removal, enclosure, encapsulation, removal and replacement, chemical stripping, interim controls, etc.) requires the use of *full* work area containment. Exterior LBP abatement using encapsulation, enclosure, removal of LBP substrate, or interim controls do not require the use of *full* containment. Specific work area containment requirements are included in the individual section addressing each abatement alternative.

**1.2 SUBMITTALS**

- A. Comply with the pertinent provisions of Section 01302 - Submittals. B.

**Product Data**

1. Materials list of items proposed to be provided under this Section;
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
3. Shop drawings in sufficient detail to show fabrication, installation, anchorage, and interface of the work of this Section with the work of adjacent trades;
4. Manufacturer's recommended installation, application or use procedures, which, when approved by the Project Lead-Safe 2000 Representative, will become the basis for accepting or rejecting actual installation, application, or use procedures used on the Work.

**1.3 QUALITY ASSURANCE**

- A. Use adequate numbers of skilled workmen who are thoroughly trained, licensed and experienced in the necessary skills, crafts, and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

**1.4 DELIVERY, STORAGE, AND HANDLING**

- A. All materials shall be delivered to the project site in their original cartons or packing. All materials shall be stored in a safe, secured, dry area. Heat and air conditioning shall be provided for all materials affected by cold or hot weather.

**PART 2- PRODUCTS****2.1 Materials**

- A. The following non-inclusive list of materials, as well as others as may be necessary, will be considered for use on abatement work area containments:
1. Polyethylene sheeting - 6-mil thick for covering non-removable items, floors, walls, ceilings, for construction barriers and wrapping objects too large to place into waste disposal bags. Opaque polyethylene shall be used for barriers on public side of enclosures. Nylon, polyester, or fiberglass reinforced polyethylene sheeting shall be used where required for outdoor barriers. Fire retardant polyethylene shall be used where the potential for fire exists.
  2. Plywood - 1/2" thick, for Security and containment barrier. CDX plywood shall be used.
  3. Work clothing - As a minimum, disposable coveralls (Tyvek, Saranex, etc.) with attached hoods; latex, rubber, and/or leather gloves; and boots or boot covers. All clothing shall be impervious to air and water. If using chemical strippers, work clothing shall be chemical resistant, or as recommended by chemical stripper manufacturer.
  4. Respiratory protection equipment - Disposable single use respirators are not acceptable. A half-mask air-purifying respirator equipped with HEPA cartridges shall be utilized to provide the minimally allowed amount of protection. If these respirators do not provide adequate protection, as determined by 29 CFR 1926.62, 29 CFR 1910.134 Project Lead-Safe KCK's Representative, the Contractor shall provide powered air-purifying respirators or supplied air systems. Supplied air systems shall supply Grade D air conforming to 29 CFR 1910.134.
  5. Signs and labels - Provide illuminated notification signs which are visible from all angles of approach to the dwelling unit, which include the phrase "Caution Lead Hazard, Keep Out, No Smoking or Eating", in bold lettering at least two inches high. Also provide illuminated signage which is visible from all angles of approach to the dwelling units, which complies



with applicable OSHA regulations and reads "Warning - Lead Work Area - Poison - No Smoking or Eating." Construction area caution and warning signs and barrier tape indicating "Authorized Personnel Only" without reference to lead-based paint are also required to restrict access to authorized personnel only.

6. Duct tape, adhesive, and fasteners for polyethylene, plywood, disposal bags, and drums.
7. Filters - HEPA filters and pre-filters for ventilation units, vacuums, and water filtration.
8. Wet wash solution - Solution containing a 5 percent solution of TSP or a non-TSP lead removal detergent (e.g. LEDIZOLV or equivalent), mixed according to manufacturer's recommendations.
9. Waste disposal bags - 6-mil thick polyethylene bags labeled with a minimum two inch high letters stating "Caution Lead Hazard" shall be used for the disposal of all applicable waste.
10. Steel drums - 55 gallon size which are resistant to chemicals for disposal and storage of liquids.
11. Disposal Container - Roll-off dumpsters which are lined with a minimum of two layers of 6-mil polyethylene sheeting. Dumpster shall have solid and lockable top.
12. Fiber drums - 55 gallon size for disposal of sharp and pointed objects.
13. Towels - Disposable towels for drying after personal decontamination.
14. Soap - Adequate supplies of soap for showering and personal decontamination shall be immediately available at all times during the project.

## 2.2 Equipment

- A. The following non-inclusive list of equipment shall be considered for use on abatement work area containments:

1. Electrical power - Ground wire equipped extension cords without splices.

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A sufficient number of GFCIs to protect all electrical equipment inside the Removal Area.

2. HEPA vacuum(s) - The Contractor shall provide HEPA vacuums for personal decontamination, clean up, and for abatement project site clean up during and after abatement.
3. Ladders and scaffolding - A sufficient number of OSHA approved and properly used and maintained ladders, scaffolds, platforms, and walkways for use during preparation, removal, inspections, and cleanup shall be provided by the Contractor.
4. Lighting - The Contractor shall supply a sufficient number of portable lighting units to provide adequate illumination (in compliance with all OSHA requirements) at all locations within the work areas.
5. Carts - Constructed of opaque materials with a secure fitting lid used for transporting filled disposal bags from Load Out to temporary disposal storage facilities.
6. Cleanup equipment - The Contractor shall provide an adequate number of mops, rags, shovels, buckets, brushes, vehicle mounted broom and/or vacuum devices, spray washers, [etc. to](#) clean up soil, lead debris, exterior dusts, and water as removal and cleaning proceeds. At least one wet/dry HEPA-filtered vacuum cleaner shall be supplied. Vacuums not HEPA-filtered and brooms which are not used in conjunction with wet misting are not permitted on-site.
7. Water sprayer - A water sprayer/mister (i.e., hand pump garden type, truck mounted sprayer, etc.) to wet all dust and/or debris that is generated by the abatement or associated work.
8. Other abatement equipment - All other tools, equipment, and accessories as may be necessary to complete the requirements of the project, or as specified in these documents.

**PART 3 - EXECUTION**

**3.1 CONTAINMENT BARRIERS AND COVERING OF WORK AREAS**

### 3.1.1 General

Seal off the perimeter of the work area to completely isolate abatement areas and to contain all airborne lead contamination created by abatement work. Cover all surfaces of the abatement work area not scheduled to be abated to protect them from contamination, prevent contaminant migration, to facilitate more efficient clean-up, and to protect the finishes from the LBP abatement work activities. The work area shall be prepared and maintained in the following manner to begin and complete lead-based paint abatement work. The required preparations are presented in the approximate order in which they shall be completed on the lead-based paint abatement project. These preparations and actions shall be used as appropriate and specified for the particular abatement project.

### 3.1.2 Work Area Set-up (Interior Abatement)

#### A. Pre-Abatement

Prior to starting any work area set-up, the Project Lead-Safe KCK's Representative may take a dust wipe sample on each of these surfaces (i.e., floor, window sill, and window trough [well]) in the work area or dwelling unit. The samples will be taken at the Project Lead-Safe 2000's expense.

#### B. Occupied Dwelling Units

The Contractor shall accompany the Project Lead-Safe KCK Representative and the occupant of each unit to be abated, prior to work area set-up, to develop a list of all personal belongings of the occupants of the unit which may be in the work areas of the Contractor or accessible to the Contractor. The Contractor shall properly store all itemized personal belongings of each dwelling unit occupant in the on-site storage containers, as directed by the Project Lead-Safe KCK Representative, so that they will not become contaminated. The Contractor shall ensure that all furniture, equipment, and personal belongings from work areas are moved and stored within the on-site storage containers

1. All furniture, equipment, or other items which will stay in the containment work area shall be completely covered with 6-mil polyethylene sheeting and sealed airtight and water tight with duct tape.
2. Shutdown and seal off all heating, cooling, ventilating or other air handling systems serving the work area with 2 layers of 6-mil polyethylene sheeting. The environment of the work area shall be completely isolated from all other areas and air flows.

3. Shutdown all electrical circuits which pose a potential hazard on the job. Exact electrical arrangements will be tailored to the particular space and systems involved. All electrical circuits serving the area or any equipment in the area will be turned off at the electrical box outside the containment or work area and locked, if possible, or taped shut with instructions indicating when power may be turned back on. A lock-out/tag-out program shall be provided.
4. Close and secure all windows, doors, or other openings into the abatement area. Allow entry only through the decontamination facility. Provide cover (critical barriers) over all windows, door and openings on the removal side with 6-mil polyethylene sheeting, duct taped securely in place. The barriers shall be constructed of two layers of 6-mil polyethylene taped on all four sides completely covering the opening. Openings include, but are not limited to, vents, HVAC units grille, windows, drains, and areas around plumbing. These barriers shall be removed by the Contractor only upon acceptance of the work area (e.g., passing clearance wipe testing) by the Project Lead-Safe KCK's Representative. Work area shall have one layer of 6-mil polyethylene sheeting on all surfaces except floors (which will have two layers) and areas where lead-based paint or lead-based painted items are to be abated. In areas where containment separates a work area from a non-work area, install the 6-mil polyethylene wall plastic on 2" x 4" s at 16" o.c.
  - i. At the Project Lead-Safe KCK's Representative's approval, Contractor may utilize a portable mini-isolation chamber to create an isolated work area around single components to be removed. This chamber shall be equipped with an adjacent clean room, and become an isolated work area sealed at all seams where it is attached to adjacent surfaces. It shall satisfy all requirements for a work area and all clearance criteria shall be met, as identified in this specification manual.
5. Post OSHA and any other locally required warning signs on the opposite (clean side) of all sealed doorways. At a minimum, the signs shall be 20" wide by 16" high and shall read in minimum of 2" high letters, DANGER LEAD-BASED PAINT ABATEMENT, DO NOT ENTER. The OSHA sign shall read WARNING LEAD WORK AREA, POISON, NO SMOKING OR EATING.
6. In areas where there are occupied areas adjacent to and within view of the abatement area, provide opaque polyethylene sheeting to create a visual barrier.

7. In areas where the polyethylene on 2" x 4"s at 16" o.c. is the only separation between abatement areas and occupied areas, construct physical (security) barriers with 2" x 4"s at 16" o.c. securely anchored to prevent movement and covered with 1/2" exterior grade plywood four feet outside (on clean side) of plastic containment barrier. At interior containment work area where physical (security) barriers are not used, install red barrier tape stating DO NOT ENTER WORK AREA or a similar message. Tape shall be installed a minimum of ten (10) feet outside of the containment wall (on the clean side). A warning sign shall be mounted on the plywood security barrier or the barrier tape stating AUTHORIZED PERSONNEL ONLY - DO NOT ENTER.
8. Work area shall be enclosed with two layers of plastic sheeting on the floor. The two layers of floor plastic should be two individual layers of clear polyethylene sheeting, turned up walls at least 12 inches. Form a sharp right angle bend at junction of floor and wall so that there is no radius which could be stepped on causing the wall attachment to be pulled loose. If at all possible and without any damage to any structural item or area, both spray-glue and duct tape all seams in floor covering. All floor seams shall overlap a minimum of 12". Locate seams in top layer at least six feet from or at right angles to seams in bottom layer. Install sheeting so that top layer can be removed independently of bottom layer. Cover carpeting (if it is to be saved and has been determined that it is not contaminated) with three layers of polyethylene sheeting, minimum of 6-mil each in thickness. Place corrugated cardboard sheets between the top and middle layers of polyethylene. Remove all electrical and mechanical items such as lighting fixtures, clocks, diffusers, registers, escutcheon plates, etc., which cover or are attached to any part of the surface to be worked on.
9. Where stairs or ramps are covered with polyethylene sheeting, provide 1/4" exterior grade plywood treads securely held in place, over polyethylene. Do not cover stairs or ramps with unsecured polyethylene sheeting. Do not cover rungs or rails with any type of protective materials.
10. If the containment barrier is breached in any manner that could allow the passage of lead dust or debris, then where possible, add affected area to the work area. Enclose it as required and decontaminate it. If contaminated area cannot be added to the work area, decontamination measures shall start immediately after contamination is discovered and all abatement and other work shall stop in the work area until the contaminated area is declared uncontaminated. Decontamination procedures consisting of wet misting, wet wiping, and HEPA vacuuming shall continue until exposure returns to background levels.

11. A third floor layer of 6-mil polyethylene sheeting shall be used as a drop cloth on the floor to protect the primary layers from dust and debris generated by the abatement process in the work area. The secondary barrier shall be taken up and replaced as necessary to assist with daily clean up.
  12. The Contractor shall establish emergency fire exits from the abatement containment area. All emergency exits shall be equipped with two (2) full sets of protected and clean protective clothing at all times. Emergency exits shall be clearly marked with red duct tape (or other similar and approved method) arrows showing the direction of exit. All exits shall have a utility knife attached by hanging from a string on the interior of the containment where seals or polyethylene must be cut or broken to exit.
  13. The Contractor shall provide an adequate number of HEPA-filtered exhaust units to ensure a minimum of one (1) complete air exchange in the containment area every 15 minutes (if specified as required by the project).
  14. The decontamination facility shall serve as the entrance and exit for all persons entering the containment area. The decontamination facility shall have all walls and ceilings constructed air tight with at least 6-mil polyethylene sheeting attached to existing building components or to a temporary framework made of 2" x 4"s at 16" o.c. The 6-mil poly wall shall be mechanically supported and sealed with duct tape or spray-glue in a manner to securely support sheeting. Tape all joints including joining with the floor covering with duct tape. Use a minimum of two layers of 6-mil polyethylene sheeting to cover the floor under the decontamination facility. Construct doors from overlapping polyethylene sheets so that they overlap adjacent surfaces. Weigh sheets at bottom so that they quickly close after release. Put arrows with duct tape on polyethylene sheets showing direction of overlap and travel. If building is partially occupied, construct a solid, securely attached barrier with 1/2" CDX plywood sheeting on 2" x 4" s at 16" o.c. on the public side (a minimum of 4' from the containment wall) to protect the polyethylene sheeting and to physically separate the containment from any occupied area. The plywood security barrier shall have a plywood door which is reinforced by 2" x 4"s and hinged with a padlock hasp or other acceptable lock.
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1. Construct the decontamination unit with a series of connecting rooms starting with the change room at the clean (non-work) area, air lock, with a shower room in between air locks and the equipment room on the "dirty" (work) area side. Provide an adequately sized decontamination facility to accommodate the number of personnel scheduled for the project.

The center shower chamber of the five chambers shall be fitted with as many portable walks through shower stalls so that all personnel will be able to go through the entire decontamination procedures within 15 minutes. The decontamination facility should be constructed of opaque or colored polyethylene sheeting, if required for privacy. Construction shall be such that it will not allow for workers and supervisors to exit without showering.

2. The changing room (clean) of the decontamination facility should be physically and visually separated from the rest of the building for the purpose of personnel changing into protective clothing or dressing into street clothing. Construct the change room using 6-mil minimum thickness polyethylene sheeting to provide an airtight room. Provide a minimum of two, three feet wide flapped door ways entering the change room. Doorways shall be constructed from polyethylene sheeting; one door way shall be accessible from the outside and one from the "airlock". Keep the floor of the change room dry, clean and free of all contaminants at all times. Do not allow overflow from the shower into the room. Damp wipe all surfaces twice after each shift change. The change room shall be supplied with an adequate supply of disposable bath towels and disposable protective clothing as required for two days use at all times. Provide one storage locker per worker and supervisor and three extra for the Project Lead-Safe KCK Representative and benches for persons changing to sit on. Eighteen (18) inches of bench per person shall be provided. Provide a portable type "ABC" fire extinguisher in the change room as per NFPA Standard 10. The entry into the change room from the "clean" or non-containment area shall be posted with all required EPA, OSHA, and other federal, state, and local warning signs, including a warning sign which states in 2" high bold letters the following: "CAUTION, LEAD HAZARD DO NOT ENTER WORK AREA UNLESS AUTHORIZED", and the OSHA, " WARNING-LEAD WORK AREA- POISON-NO SMOKING OR EATING."
3. The shower room of the decontamination facility shall provide a completely water tight operational compartment to be used for transit of all persons entering the work area from the change room, or for showering by all persons headed out of the work area after undressing in the equipment room. Construct each stall and shower wall so that water running down the walls will drip into a watertight pan. Install a free draining, smooth, wooden or easily cleaned additional floor top of the shower pan. Separate this room from the rest of the building and the adjacent tool and change rooms with air tight walls and "air lock" rooms at least 3' wide, fabricated of 6-mil polyethylene sheeting. Provide temporary water service connection to the shower chamber of the decontamination facility.

Provide backflow protection at the point of connection to the building water system. Provide a UL rated 40 gallon electric water heater to supply hot water at a minimum of 105°F to the showers. Provide as many 40-gallon water heaters as necessary for a complete work shift to shower with an adequate supply of hot water within 15 minutes. Provide splash proof entrances to "air lock" rooms. All waste water from showers shall be filtered before draining any potentially contaminated liquids, as per the requirements of the local Publicly Owned Treatment works (POTW). All waste and wash water shall be pumped to a drain and provide a 20 micron and 3 micron waste water filters (or other appropriate micron size filters, so as to at least meet POTW water disposal requirements) in line to drain. Locate filters inside shower so that water lost during filter change drains into shower pan. Shower rooms may be arranged as follows:

- a. At entrance to the shower room, construct door frame from 2" x 4" lumber with 1-1/2" jambs and 1-1/2" header and sill. Attach to the frame of two overlapping flaps of heavy rubber roofing material (1/16" thickness), securely fastened at the header and the jambs. Overlap flaps at 6" in a direction that presents a shingle-like configuration to the water stream from the shower. Overlap shower stall sill by 1-1/2" minimum. Arrange so that any air movement from the work area will cause the flaps to seal against the door frame. At 4" toward shower from each entrance to the shower room, construct a second 2" x 4" door header. Attach to this header a one piece flap of approximately 1/16" rubber roofing material fastened at the top, overlapping onto each side of the shower unit by 1-1/2" minimum and stopping 1" clear of floor. Provide shower heads and controls, temporary cold and hot water and drainage, soap dish, and continuous supply of soap, paper towels, and maintain sanitary conditions at all times. Arrange controls so that a single individual can shower without assistance.
4. The equipment (or load out) room of the containment facility shall provide a completely airtight compartment to be used to store work equipment, reusable footwear and warm clothing and as a transit and change station. Separate this room from the shower area by a minimum of two 3' wide doorways at each end of a 3' minimum wide "air lock" room with two separate overlapping flaps of 6-mil polyethylene sheeting at the door to the equipment room. The door nearest the shower shall be constructed as indicated in [3.1.2.P.3.a. Separate](#) this room from the shower room, the work area, and other rooms with airtight walls and ceilings constructed of a minimum 6-mil polyethylene sheeting. Provide a temporary electrical subpanel in the equipment room to accommodate any power tools and equipment in the work area. Provide benches for workers to sit on. The shower room shall be separated from the dirty room and clean room with a 3' deep (polyethylene sheeting "airlock" room) which is constructed of 6-mil and has 3' wide doorways.



5. Decontamination Facilities shall remain operable from the time removal work is approved until completion and passing of final dust wipe sampling.
6. Load Out - An area through which material and equipment are passed through into the Removal area, and through which cleaned bags of contaminated waste and cleaned equipment are passed through to the outside from the Removal Area. The load out area may be constructed as a separate area (other than using the decontamination facility) if approved by the Project Lead-Safe KCK Representative. The load out room shall be constructed with 6-mil polyethylene sheeting on 2" x 4"s at 16" o.c.. The load out shall be a minimum of 3' wide and have an "airlock" between it and the outside. The "airlock" shall have a minimum of 3' wide and have a door constructed in accordance with 3.1.2.P. at the outside and at the load out room. The load out room shall have doors constructed in accordance with 3.1.2.P. at both ends of the room. The load out and the "airlock" shall have two layers of 6-mil polyethylene sheeting on the floor installed in accordance with 3.1.2.J. Remove and replace the top layer of polyethylene as lead contaminated waste daily at the end of each work shift.

### 3.1.3 Exterior Work Areas

Work area containment set-up for the abatement of exterior building items such as gable ends, soffits, porch ceilings, porch columns, railings, stair rails, fascia boards, siding, windows, and doors or other exterior components shall, at a minimum, consist of 2 layers of 6-mil polyethylene sheeting (poly) placed on the ground at least ten (10) feet in all directions of the abatement area. The dwelling unit side (inside) of the ground poly shall extend at least 18" up the foundation wall. The outside ends of the ground poly shall be turned up at the edge 6" and securely supported with wood stakes to help prevent debris from being spread beyond the poly and the work area. The poly shall be secured at 6 foot on center minimum to prevent it from moving or blowing; additional attachment shall be added as necessary to prevent movement. Seams shall be overlapped a minimum of 12", glued, and taped continuous. Containment area and ground poly shall be able to withstand wind gusts of up to 40 MPH.

- a. No containment walls shall be required for the abatement of the exterior items unless wind conditions disperse debris beyond the polyethylene sheeting on the ground. If the wind disperses paint debris, the abatement shall immediately stop until the wind reduces in velocity, as approved by the Project Lead-Safe KCK Representative.

The Contractor shall HEPA vacuum all ground areas to remove all visual debris that is dispersed beyond the 6-mil polyethylene ground cover. The Contractor shall clean by HEPA vacuum at the end of each day and at other times as necessary during abatement to prevent paint chips and debris from being spread beyond the ground cover sheeting.

- b. Barrier tape shall be placed three (3) feet beyond exterior ground poly, outside all exterior abatement areas on all sides to prevent entry into the abatement area. OSHA lead abatement signs and other federal, state, or local warning signs shall be mounted on the barrier tape or on separate stakes at the barrier tape line.

**END OF SECTION**

**SECTION 01510 - HEPA FILTERED VENTILATION SYSTEMS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Interior lead-based paint abatement work area containment areas within occupied dwelling units shall have a HEPA filtered ventilation system which filters and exchanges the containment air a minimum of four (4) times per hour. The ventilation system shall be exhausted to the outside unless approved otherwise.
- B. Related Work
  - 1. Documents affecting the work of this section include, but are not necessarily limited to General Conditions, Supplementary Conditions, Sections in all Divisions of this specification and as shown on the drawings (if provided).

**1.2 SUBMITTALS**

- A. Comply with the pertinent provisions of Section 01302 - Submittals. B.

**Product Data**

The Contractor shall provide to the Project Lead-Safe KCK Representative, when requested by the Representative, the following information before beginning abatement, construction, or maintenance activity:

- 1. Materials list of items proposed to be provided under this Section;
- 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements, including manufacturer's product data on the HEPA filtration units;
- 3. Manufacturer's recommended application or use procedures, which, when approved by the Project Lead-Safe KCK Representative, will become the basis for accepting or rejecting actual application or use procedures used on the Work;
- 4. Provide a copy of the volume flow rate calculations and a layout sketch indicating the locations of the filtration units to the Project Lead-Safe KCK or his representative for approval before beginning abatement, construction, or maintenance activity;

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5. Methods of supplying adequate power to the units and designation of electrical panels supplying power.
6. Description of testing methods used to establish correct airflow and pressure differential. Also provide manufacturer's product data on monitoring the pressure differential monitor associated with the air filtration unit.
7. Method of providing adequate auxiliary power supply if existing power is not adequate.

### **1.3 QUALITY ASSURANCE**

- A. Use adequate numbers of skilled workmen who are thoroughly trained, licensed and experienced in the necessary skills, crafts, and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this specification.

### **1.4 DELIVERY, STORAGE, AND HANDLING**

- A. All materials or equipment shall be delivered to the project site in their original cartons or packing. All materials or equipment shall be stored in a safe, secured, dry area. Heat shall be provided for all materials or equipment affected by cold weather.

## **PART 2 - PRODUCTS**

### **2.1 Materials**

- A. The following materials will be considered for use on LBP abatement projects:
  1. Polyethylene sheeting - 6-mil thick for covering non-removable items, floors, walls, ceilings, for construction barriers and wrapping objects too large to place into waste disposal bags. Opaque polyethylene shall be used for barriers on public side of enclosures. Nylon, polyester, or fiberglass reinforced polyethylene sheeting shall be used where required for outdoor barriers. Fire retardant polyethylene shall be used where the potential for fire exists.

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2. Plywood - 1/2" thick, for Security and containment barrier. CDX plywood shall be used.
3. Duct tape, adhesive, and fasteners for polyethylene, plywood, disposal bags, and drums.
4. Filters - HEPA filters and pre-filters for ventilation units, vacuums, and water filtration.

### **2.2 Equipment**

A. The following equipment shall be considered for use on LBP abatement projects:

1. Electrical power - Ground wire equipped extension cords without splices. A sufficient number of GFCIs to protect all electrical equipment inside the Removal Area.
2. HEPA vacuum(s) - The Contractor shall provide HEPA vacuums for personal decontamination, clean-up, and for abatement project site clean-up during and after abatement.
3. Ladders and scaffolding - A sufficient number of OSHA approved and properly used and maintained ladders, scaffolds, platforms, and walkways for use during preparation, removal, inspections, and cleanup shall be provided by the Contractor.
4. Lighting - The Contractor shall supply a sufficient number of portable lighting units to provide adequate illumination (in compliance with all OSHA requirements) at all locations within the work areas.
5. HEPA filtration units - Provide a sufficient number of HEPA filtration units as described in Part 3 - Execution of this section.
6. Other abatement equipment - All other tools, equipment, and accessories as may be necessary to complete the requirements of the project, as specified in these documents, and required by local, state, and federal requirements and/or guidelines, in a safe and efficient manner.

## PART 3 - EXECUTION

### A. General

The Contractor shall demonstrate the number of air filtration units needed per work area for 5 room air changes by calculating the volume flow in cubic feet per minute (cfm) delivered by each unit under 2" pressure drop across the filters. When a pressure differential system is selected, provide enough HEPA filtration units to filter and recirculate the air in the work area at a minimum rate of 4 room air changes per hour.

### B. Location of HEPA Filtration Devices

The HEPA filtration devices shall be located so that air entering the work area will be through a supplemental air make-up inlet or the decontamination facility and the air exhausting the unit shall be exhausted directly to the outside. Unless written authorization from the Project Lead Safe KCK Representative is given, ventilation devices shall exhaust air outside the building, using flexible ducts if necessary. Make-up air shall be provided through the Decontamination Facility and Load Out, maintaining air flow inward through these areas at all times. If additional make-up air is required, a flapped vent may be constructed with the approval of the Project Lead Safe KCK Representative.

### C. Filter Requirements

Each filter provided in the ventilation devices shall be a HEPA filter which is individually tested and certified by the manufacturer to have an efficiency of not less than 99.97% when challenged with 0.3  $\mu\text{m}$  dioctylphthalate (DOP) particles. Testing shall be in accordance with Military Standard MIL-STD-282 and Army Instruction Manual 135-300-175A. Each filter shall bear a UL586 label to indicate ability to perform under specified conditions.

1. Each filter shall be marked with the name of the manufacturer, serial number, air flow rating, efficiency and resistance, and the direction of test air flow.

### D. Filter Stages

HEPA filtered ventilation units shall have pre-filters which protect the final filter by removing the larger particles. Two stages of prefiltration are required. First-stage prefilter shall be a low efficiency type (i.e., for particles 10  $\mu\text{m}$  and larger). Second-stage prefilter shall have a medium efficiency (i.e., effective for particles down to 5  $\mu\text{m}$ ). Prefilters shall be installed either on or in the intake grid of the unit and held in place with special housing or clamps. All filters shall be disposed of as lead-contaminated waste.

**E. Electrical Lockout**

Provide an electrical (or mechanical) lockout to prevent HEPA filtration units from operating without a HEPA filter. Devices shall be equipped with automatic shutdown system to stop the ventilation fan in the event of a major rupture in the HEPA filter or blocked air discharge. Warning lights are required to indicate normal operation, too high a pressure drop across the filters (i.e., filter overloading), too low of a pressure drop (i.e., major filter overloading), and too low of a pressure drop (i.e., major rupture in HEPA filter or obstructed discharge).

**E. Supplemental Make-Up Air Inlets**

Provide where required for proper airflow through the workspace openings in the plastic sheeting to allow air flow from outside the building into the work area. Locate auxiliary make-up air inlets as far as possible from the ventilation unit (i.e., on an opposite wall), off the floor (preferably near the ceiling), and away from barriers that separate the work area from occupied clean areas. All supplemental make-up air inlets must be approved by the Project Lead-Safe KCK Representative prior to installation. All supplemental inlets that "short-circuit" good containment area air flow and reduce the necessary air pressure shall be removed and the opening sealed.

1. Start exhaust units before beginning work; before paint is disturbed; and before being in the closed containment for any extended period of time to allow make-up air to be introduced. After abatement, construction, or maintenance work has begun, run units continuously to maintain constant ventilation and air filtering until abatement, construction, or maintenance work is complete.
2. Do not shut down filtration system during abatement operations, construction, or maintenance procedures involving lead-based paint.
3. Start abatement work at a location farthest from the exhaust units and proceed toward ventilation units. If an electric power failure occurs, immediately stop all abatement work and start dust reduction activity such as wet misting and do not resume work until power is restored and all ventilation units are operating again.

**END OF SECTION**

**SECTION 01555 - WORKER PROTECTION**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. The abatement project shall be supervised by persons trained in accordance with OSHA 29 CFR 1926.62 and the EPA/KDHE approved training curriculum. Training shall include the requirements noted in this specification manual as well as that required in OSHA 29 CFR 1926.62, Paragraph (L), "EMPLOYEE INFORMATION AND TRAINING" and other applicable sections of 29 CFR 1926.62, EPA 40 CFR 745, "LEAD: REQUIREMENTS FOR LEAD-BASED PAINT ACTIVITIES IN TARGET HOUSING AND CHILD-OCCUPIED FACILITIES; FINAL RULE", and the Department of Health & Environment (KDHE), "LICENSING OF LEAD INSPECTORS, LEAD ABATEMENT WORKERS AND LEAD ABATEMENT SUPERVISORS/CONTRACTORS."
- B. The abatement project shall also be completed by abatement workers trained in accordance with OSHA 29 CFR 1926.62 and the EPA/MDOH approved training curriculum. Training shall include the requirements noted in this specification manual as well as that required in OSHA 29 CFR 1926.62, Paragraph (L) "EMPLOYEE INFORMATION AND TRAINING", and other applicable sections of 29 CFR 1926.62, EPA 40 CFR 745, "LEAD: REQUIREMENTS FOR LEAD-BASED PAINT ACTIVITIES IN TARGET HOUSING AND CHILD-OCCUPIED FACILITIES; FINAL RULE", and the Missouri Department of Health (MDOH), 19 CSR 20-8.020, "LICENSING OF LEAD INSPECTORS, LEAD ABATEMENT WORKERS AND LEAD ABATEMENT SUPERVISORS/CONTRACTORS."

**C. Related Work**

General provisions of the contract, including general and supplementary conditions, Attachment A and/or amendments as may be issued, Division 1, 2, 5, 6, and 9 of the specifications, and other sections of the specification as may be added apply to the work of this section. The contract documents show the work of the contract and related requirements and conditions impacting the project. Related requirements and conditions include: applicable codes and regulations, notices and permits, existing site conditions and restrictions on use of the site, requirements for partial owner occupancy during work, coordination with other work and phasing of work. Whenever there is a conflict or overlap of the above references, the most stringent provisions apply.



**SUBMITTALS**

- A. Comply with the pertinent provisions of Section 01302 - Submittals. B.

**Product Data**

1. Materials list of items proposed to be provided under this Section;
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
3. Manufacturer's recommended application or use procedures, which, when approved by the Project Lead-Safe KCK Representative, will become the basis for accepting or rejecting actual application or use procedures used on the Work.
4. If requested, the Contractor shall prepare and submit to the Project Lead-Safe KCK a contingency plan to meet all OSHA requirements of 29 CFR 1926.62. The plan shall include among other things, an outline of how the various items will be abated, in accordance with OSHA requirements and a contingency plan for emergencies including fire, accident, failure of power, failure of filtration ventilation system (if used), break in containment wall, contamination of clean or occupied areas, or any other event that may require modification of standard operating procedures during abatement, or other construction activity involving lead-based painted materials.

**1.3 QUALITY ASSURANCE**

- A. Use adequate numbers of skilled workmen who are thoroughly trained, licensed and experienced in the necessary skills, crafts, and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this specification.
- B. Certification

Each person proposed to be used on the lead-based paint abatement project must provide a training certificate issued by an acceptable training organization or company indicating that they were trained in the areas required by this specification. The Project Lead-Safe KCK Representative must approve all worker and supervisor's certifications before they can come onto the project site.

**C. Medical Examinations**

The Contractor shall provide medical examinations for all workers and other employees entering the work area per OSHA 29 CFR 1926.58 and 1926.62, regardless of exposure level. In addition, the Contractor's physician shall perform an evaluation of each worker's ability to work in heat stress environments. Medical examinations must include the following as a minimum:

1. A detailed work and medical history that pays particular attention to past lead exposure and past gastrointestinal, hematological, renal, cardiovascular, reproductive, and neurological problems, as well as personal habits such as smoking and hygiene;
2. A thorough physical examination that pays particular attention to teeth, gums, and hematological, gastrointestinal, renal, cardiovascular, and neurological systems;
3. Evaluation of pulmonary status to determine whether the worker is capable of wearing a respirator;
4. A blood pressure measurement;
5. A blood sample and analysis that determines blood lead levels, hemoglobin, hematocrit, red cell indices, peripheral smear morphology, blood urea nitrogen, serum creatinine, and zinc protoporphyrin;
6. A routine urinalysis with microscopic examination;
7. Pregnancy testing or laboratory evaluation of male fertility, if requested by worker; and,
8. Any laboratory or other test which is recommended by the examining physician.

The Contractor shall be responsible for compliance with OSHA 29 CFR 1926.62 for medical surveillance, record keeping, and access to medical records. All applicable regulations will apply, such as those indicated in 29 CFR 1926.62 and its appendices, and 29 CFR 1910.20.

**D. Emergency Plan and Precautions**

1. The emergency plan shall establish emergency fire exits from the abatement, construction, or maintenance activity area. All emergency exits shall be equipped with two (2) full sets of protected and clean protective clothing at all times. Emergency exits shall be clearly marked with masking tape arrows showing the direction of exit. All exits shall have a utility knife attached by hanging from a string on the interior of the containment where seals or plastic must be cut or broken to exit.
2. The emergency plan shall provide that local medical emergency personnel, fire, police, and hospital emergency room staff be notified prior to commencement of abatement, construction, or maintenance operations as to the possibility of having to handle lead-contaminated workmen, and shall be advised on safe lead decontamination. The telephone number indicating the location of local emergency services shall be posted in the clean room of the decontamination facility.
3. Before the Contractor starts actual control of the lead hazards and any activity that might disturb lead-based painted items on projects anticipated to take longer than two weeks, security and building maintenance and fire departments and other emergency personnel shall be notified as to the danger of entering the containment areas and they shall be invited to attend an informal training program to be conducted by the Contractor which provides information regarding abatement activities, decontamination practices, etc. The Contractor shall make every effort to help these agencies form plans of action should their personnel need to enter the contaminated areas.
4. The emergency plan shall indicate how the Contractor is prepared to administer first aid to injured personnel during decontamination. Seriously injured personnel shall be treated immediately or evacuated without delay for decontamination. When an injury occurs, the Contractor shall stop work and immediately implement lead dust reduction techniques (i.e., HEPA vacuuming and water misting) until the injured person has been removed from the containment area.

**E. Protective Clothing**

Protective clothing shall be worn at all times; during set-up, during clean-up, during abatement, and whenever anyone enters the regulated or containment area of an abatement work area. Persons entering the abatement work area or containment area shall not wear their own clothing into the abatement areas unless the clothing remains in the abatement area and is disposed of as lead-contaminated waste.

Each worker, supervisor or other person entering the abatement work area shall be supplied with a new disposable suit every time he/she re-enters the regulated/abatement work area. The Contractor shall provide at all times disposable clothing and respirators to the Project Lead-Safe KCK Representative and other authorized visitors for use in the abatement area.

The following protective clothing items shall be worn whenever entering regulated/ abatement work areas:

1. Coveralls

Disposable full-body coveralls with attached disposable foot covers and disposable head covers shall be worn by all abatement personnel, as well as all others entering the regulated/abatement work area. A sufficient number of coveralls (for a minimum of two day period) shall be provided for all required changes for all personnel in the work area and others who might enter the containment area, at all times. Disposable coveralls shall be removed and discarded as contaminated waste upon leaving the containment area.

2. Foot Coverings

If not attached to the disposable coveralls, all abatement personnel or other persons entering the containment area shall wear rubber or vinyl boots or 18 inch tall disposable foot covers. Boots shall remain in the dirty area and shall be disposed of as contaminated waste at the end of the project. Rubber or vinyl boots which can be decontaminated by cleaning with detergent in the shower may be reused. Use tape to secure disposable foot coverings at the ankles or legs to the disposable coveralls.

3. Head Protection

Hard hats, as required by OSHA, shall be worn by all abatement personnel and others entering the containment area when required. Hard hats shall be worn at all times that work is in progress, which may cause head injury as required by OSHA. Hard hats shall remain in the work area throughout the work. At the end of a project, thoroughly clean and decontaminate hats before removing them from the containment area.

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**PROJECT LEAD-SAFE KCK LEAD ABATEMENT SPECIFICATION 4.**

4. Eye Protection

Goggles with vents and side shields shall be worn for all work tasks as required by OSHA, (unless a full-face respirator is in use), for all personnel involved in scraping, spraying, when recommended by equipment/material/product manufacturer, where required by Material Safety Data Sheets (MSDS), or any other activity which might cause an eye injury due to splash or fragmentation. Thoroughly clean and decontaminate goggles before removing them from the containment area.

5. Gloves

Gloves shall be worn by all abatement personnel or others in the containment areas. Gloves shall be disposable plastic, vinyl, nitrile, or rubber, as required to protect the hands from all contamination and all work activities. Use tape to secure gloves at the wrists to the disposable coveralls.

6. Respirators

Respirators shall be provided and used in accordance with Section 01556 - Respiratory Protection.

F. Site Safety

1. The Contractor is responsible for all safety at the work site. This includes, but is not limited to electrical safety, mechanical (tool) safety, fire safety, and personal protection safety. Contractor shall meet all federal, state, and local regulations which are applicable. Where any regulatory agency or regulation contradicts another regulatory agency or regulation, Contractor is responsible for adhering to the most stringent requirements in effect.
2. A principal concern at the abatement project site is to ensure that adequate exits exist in the event of an emergency and conversely, that adequate entrances exist for emergency personnel. The work requires sealing entrances and the extensive use of 6-mil polyethylene sheeting; however, the Contractor should never permanently seal (e.g. nail, lock, bolt, hard cover) any potential escape exits and must identify and inform all abatement personnel and all site visitors of the location of all required exits.

**PROJECT/SITE CONDITIONS**

- A. The Owner will provide access as required during the project to the Contractor, personnel assigned to the project, the Project Lead-Safe KCK Representative; and other authorized persons. The Contractor shall be responsible for the security of each building or portion thereof involved in the abatement project, until the Contractor has successfully achieved final dust lead clearance. It will also be the Contractor's responsibility to allow only authorized personnel into the work area, and to secure all assigned entrances and exits at all times, but particularly at the end of the work day, so as to prevent unauthorized entry.
- B. Security measures shall be taken to prevent entrance into a containment area during nonwork hours by all appropriate means, which can include plywood and 2" x 4" s at 16" o.c. stud partitions covered with 1/2" CDX plywood forming a wall and locked doorway(s).
- C. The Contractor shall maintain a bound log book with pre-numbered pages in which any and all persons entering or leaving any of the lead abatement work areas must sign and enter the dates and times of entry and departure. A notarized copy of the log book indicating its authenticity as representing the actual job-site logbook shall be given to the Project Lead-Safe KCK Representative within 7 days after the project has ended and before final payment can be approved.
- D. A representative of the Contractor (e. g., "outside man", etc.) shall be stationed within close proximity to the unlocked containment entrance to prevent unauthorized visitors entrance to the abatement work area during Contractor work hours.

**PART 2 - PRODUCTS****2.1 PERSONAL PROTECTIVE EQUIPMENT**

- A. All personal protective equipment shall meet all OSHA, MSHA, NIOSH and all other federal, state, and local regulatory requirements before it is brought onto the site.
- B. A list of all personal protective equipment shall meet the standards indicated and noted elsewhere in this specification manual. Standards indicated shall be considered minimum acceptable products.
- C. Work clothes  
Coveralls shall be disposable with attached or separate hood and booties. Coverall shall be sized to properly fit worker without unnecessary hanging or "bagging" portions.

- D. Nor shall coveralls be too tight or small where they don't cover the person entirely or the seams are subject to unnecessary stress because the coveralls are too small. Coveralls shall be constructed of a material which is impervious to air and water, and shall also be impervious to all other materials as indicated by a product manufacturer or MSDS.
- E. Latex, Vinyl, Nitrile gloves/other approved gloves  
All protective gloves shall fit the worker's hand properly and be made of a material that is impervious to air and water, and shall also be impervious to all other materials as indicated by a product manufacturer or MSDS.
- F. Boot and Boot Covers  
Boots or Boot covers shall be of proper size to fit the person's foot and shall be constructed of a material which is impervious to air and water, and shall also be impervious to all other materials as indicated by a product manufacturer or MSDS.
- G. Other Protective Equipment  
Other protective equipment such as hard hats, steel toed boots and goggles shall be required for type of work in order to protect the personnel's health and safety, as required by OSHA.

### PART 3 - EXECUTION

#### 3.1 PROCEDURES FOR USING WORKER PROTECTION A.

##### Entering the Work Area

Each time a supervisor, worker, or other person enters the abatement work area containment, they shall utilize the following procedures:

1. Remove completely all street clothing, underclothing and/or underwear, change into work clothing, head covers, gloves, and shoe covers in the clean section of the designated changing areas (change [clean] room of the decon) and enter the work area through airlocks, shower, and equipment (dirty) room of the decontamination unit. Store street clothing in provided locker in the change room. If a member of the opposite sex is required to enter or exit the work area, make all necessary provisions to ensure their privacy throughout the decontamination process by posting guards at both entry points of the decontamination facility so that no member of the opposite sex will enter or exit during their stay, or as an alternative, provide separate decontamination facilities for both male and female workers;

## **PROJECT LEAD-SAFE KCK LEAD ABATEMENT SPECIFICATION**

2. Use work garments of appropriate size, and use duct tape or similar product to reinforce all seams which might be subject to stress (e.g., underarm, crotch, and back). Use duct tape or similar product to attach and seal gloves and boot covers to the disposable suit;
3. Select and wear all appropriate and properly functioning personal protective equipment (PPE), including, but not limited to; respirators, toe guards, face shields, hard hats, etc., before entering work area;
4. Store all additional non-contaminated abatement work clothing in the designated changing area (clean room); and,
5. Wear completely dedicated clothing that is appropriate for existing weather and temperature conditions under the protective clothing. This clothing shall remain in the contaminated area of the work area containment and shall be disposed of as contaminated.

### **B. Exiting the Work Area**

Each time a supervisor, worker, or other person exits the abatement work area containment they shall follow the procedures listed in Section 01715 - Project Decontamination. All personnel must leave the abatement area to eat, smoke, dip/chew tobacco, drink, apply cosmetics, use toilet facilities, chew gum, apply make-up, or any other activity which may contaminate oneself with lead dust or debris.

### **C. Other Protective Equipment**

1. Goggles (or other appropriate eye protection) with side shields shall be worn when working with a caustic material that may splash or a material that may break, fragment or splinter. Eye wear must be worn if specified on the Material Safety Data Sheet (MSDS) for working with the materials, or as required by any and all other regulations.
2. Additional respiratory protection, such as organic vapor cartridges may be necessary when handling some materials or products. Consult the manufacturer and/or the appropriate MSDS and obtain the proper respiratory filter cartridges.



**SECTION 01556 - RESPIRATORY PROTECTION**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Respiratory protection shall be used by all personnel during set-up, clean-up, when conducting abatement, or when working with any surface, material or item of unknown lead content, until properly conducted air sampling indicates that airborne lead levels fall below the requirement to use respiratory protection ( $50 \mu\text{g}/\text{m}^3$  of air over an 8 hour Time Weighted Average). Respirators with appropriate filter cartridges shall be used whenever work area or abatement area contaminant containment controls are utilized.
- B. Respiratory protection shall be in accordance with OSHA regulations 29 CFR 1910. 29 CFR 1910.134, and 29 CFR 1926.62. Respirator selection shall be in accordance with 29 CFR 1910.1025. NIOSH Decision Logic (Publication #87-108) may be used as a guide for respirator selection.
- C. Related Work
- General provisions of the contract, including general and supplementary conditions, addenda, Divisions 1, 2, 5, 6, and 9 of the specifications, and other Divisions of the specification as may be added, apply to the work of this section. The contract documents show the work of the contract and related requirements and conditions impacting the project. Related requirements and conditions include: applicable codes and regulations, notices and permits, existing site conditions and restrictions on use of the site, requirements for partial owner occupancy during work, coordination with other work and phasing of work. Whenever there is a conflict or overlap of the above requirements, the most stringent provisions shall apply.

**1.2 SUBMITTALS**

- A. Comply with the pertinent provisions of Section 01302 - Submittals. B.

**Product Data**

1. Materials list of items proposed to be provided under this Section;
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;

3. Manufacturer's recommended application or use procedures, which, when approved by the Project Lead-Safe KCK Representative, will become the basis for accepting or rejecting actual application or use procedures used on the Work.

### 1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained, licensed and experienced in the necessary skills, crafts, and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this specification.

- B. Written Respiratory Protection Program

The Contractor shall develop, implement, and maintain a written respiratory protection program which complies with all OSHA requirements. The Program shall at least consist of the following elements:

1. Written statement of company policy, including assignment of individual responsibility, accountability, and authority for required activities of the respiratory protection program.
2. Written standard operating procedure governing the selection and use of respirators.
3. Respirator selection (from NIOSH/MSHA approved and certified models) on the basis of hazards to which the worker is exposed.
4. Medical examination of workers to determine whether or not they may be assigned an activity where respiratory protection is required.
5. User training in the proper use and limitations of respirators (as well as ways to evaluate the skill and knowledge obtained by individuals through training).
6. Respirator fit testing and user seal checks.
7. Cleaning, disinfecting, drying and storage of respirators, including the frequency.
8. Routine and regular inspection of respirators during cleaning and before donning, as well as at least once a month and after each use for those respirators designated for emergency use.

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9. Storage of respirators in a convenient, dry, clean, and sanitary location, in crushproof containers.
10. Surveillance of work area conditions and degree of employee exposure (e.g., through air monitoring).
11. Regular inspection and evaluation of the continued effectiveness of the program.
12. Recognition and resolution of special problems as they affect respirator use (e.g., facial hair, eyeglasses, scars, dentures, localized swelling, weight loss/gain, etc.).
13. Proper respirator use and user seal checks, as well as procedures for donning and doffing respirators when entering and exiting the abatement area.

### **C. Respiratory Protection Program Evaluation**

The Contractor shall periodically assess the effectiveness of the respiratory protection program during all phases of LBP abatement operations. Frequent walk-through inspections during abatement activities shall be conducted to monitor and document supervisor and worker compliance with the requirements of the program. In addition to the general assessment of the overall respiratory protection program, specific evaluations of respirator cleaning, inspection, maintenance, repair, storage, and use procedures shall be frequently conducted to ensure that the desired results of these operations are consistently achieved. The following special problems shall be addressed and resolved, if encountered during program evaluation:

1. Facial hair, including beards, mustaches, sideburns or more than one days' beard growth shall not be allowed if a person is using a tight fitting respirator facepiece and if facial hair prohibits a proper seal between the respirator and the person's face.
2. Eye glasses shall not be used with full face respirators. Special corrective lenses are available from all manufacturers and shall be permanently mounted by an individual designated by the manufacturer as qualified to install accessory items. Eyeglasses and goggles may interfere with half-face respirators. In this case, a full facepiece with special corrective lenses as installed by the manufacturer shall be provided.

3. Facial deformities which prevent tight seal are scars, deep skin creases, localized swelling, prominent cheekbones, severe acne, lack of teeth, or use of dentures.
4. Communications while wearing a respirator with a facepiece can break the seal of the facepiece. When communication is necessary within the work area, it shall be done with the help of special communicating equipment obtained from the respirator manufacturer, or with the use of specifically indicated hand signals which are known and immediately recognized by all personnel.

## **PART 2- PRODUCTS**

### **A. Respirator Selection**

1. The Contractor shall provide, at a minimum: half-mask air purifying respirators equipped with HEPA cartridges for airborne lead dust levels not in excess of  $500 \mu\text{g}/\text{m}^3$  (10 times the PEL); Full-face powered air purifying respirators (PAPR) with HEPA cartridges for airborne lead dust levels from  $500 \mu\text{g}/\text{m}^3$  to not in excess of  $2,500 \mu\text{g}/\text{m}^3$ ; and pressure demand, full-face supplied air respirators when airborne lead dust concentrations are expected to exceed  $2,500 \mu\text{g}/\text{m}^3$ . Respirators and HEPA cartridges shall be NIOSH and MSHA approved. In lieu of respirators noted, the Contractor may provide as a minimum, if approved by the Project Lead-Safe 2000, respirators as specified in 29 CFR 1926.62 "Lead Exposure in Construction", Table 1.
2. The Contractor shall provide appropriate respirators to the Project Lead-Safe 2000 Representatives and any regulatory or other authorized visitors for use in the work area. Respirators shall be individually assigned to abatement workers and supervisory personnel for their exclusive use.

## **PART 3 - EXECUTION A.**

### **Respirator Use**

Unused filter cartridges shall be stored in an area where they will not be subject to any contamination. New cartridges shall be installed whenever the worker notices a difficulty in breathing, when odors are evident while wearing a respirator or when the cartridges become wet during showering. The Contractor shall maintain an adequate supply of both HEPA and organic vapor cartridges, appropriate for each type of respirator used and each type of abatement being completed, which allow for all persons to change cartridges as often as may become necessary.

The cartridges shall be disposed of as lead-contaminated waste, until hazardous waste characterization testing proves otherwise. Respirators shall be used, but not limited to the following, in accordance with all applicable regulations:

1. During work area or containment area preparation (set-up);
2. During any abatement or interim control strategy implementation, including, but not limited to; manual demolition of a structure or building component, working with any known/assumed/potential lead-containing material, manual scraping, manual sanding, use of heat guns, use of chemicals, use of power tool cleaning with or without dust collection systems, etc.;
3. When installing barriers, sawing, hammering, drilling, or doing similar work that could disturb lead-containing materials through shock or vibration;
4. In abatement, regulated or containment areas from the time set-up or abatement of lead-containing items begins until clearance sampling results are acceptable;
5. In "Load Out" areas and while loading bags or drums from the area and loading them onto the disposal truck, and at the disposal site during unloading; and,
6. At all other times as required by federal, state, and local regulations.

**B. Respirator Fitting**

All personnel shall perform a positive/negative pressure user seal checks each time the respirator is put on, as the respirator design allows, and as the Contractor's respiratory protection program requires. All user seal checks and all fit testing shall be conducted in strict accordance with all applicable OSHA regulations.

**1. Positive Pressure User Seal Check**

Positive pressure user seal check is conducted by closing the exhalation valve with the hand and exhaling gently for at least 10 seconds. A slightly positive pressure shall be built up inside the face piece without any outward leakage of air from the face piece.

**2. Negative Pressure User Seal Check**

Negative pressure user seal check shall require the respirator wearer to cover the filter air intake areas with the palm of the hand and breathe in gently, holding breath for 10 seconds.

A proper fit is indicated if the face piece collapses slightly without inward leakage of air into the face piece around the face seal.

C. Respirator Cleaning

As part of the OSHA required respiratory protection program, respirators shall be cleaned after each use by the wearer or the respiratory protection program administrator (or his/her designee) at the end of each shift. Collect and store all respirator equipment in the change room of the decontamination facility for additional inspection and cleaning daily. Every individual person's respirator shall bear individual identification and shall always be assigned to the same worker. Perform continuous inspection of respirators to identify malfunctions. Inspections shall be performed in accordance with manufacturer's instructions, as well as the Contractor's written respiratory protection program. Repair of respirators and replacement of parts shall be done by an individual with special training. Replacement parts for the respirators shall be from the same manufacturer of the respirator only. Substitution of parts from a different brand or type of respirator, or unauthorized modification of a respirator will render the respirator to be considered nonapproved and it shall be immediately removed from the project site and destroyed. Store respirators in a convenient, clean, and sanitary location to ensure proper function when used. Protect against dust, chemicals, sunlight, excessive heat or cold, and any type of mechanical damage. Store thoroughly dried respirators in sealed and clean "Ziplock" type bags, in a crush proof container.

**END OF SECTION**

**SECTION 01715 - DECONTAMINATION**

**PART 1 - GENERAL**

**1.1 SUMMARY**

Decontamination involves decontaminating all work areas, equipment, tools, materials and items, containerized lead contaminated waste, non-lead contaminated wastes, or other items that are removed from the containment area, as well as all personnel exiting from within the project work area. Decontamination involves procedures for decontamination of personnel, tools, area of decontamination and containment areas itself, as well as all other items on a daily and intermittent daily basis.

- A. Decontamination involves the decontamination of four (4) primary areas:
  - 1. Decontamination of all areas of the decontamination facility (i.e., change [clean] room, showers, and equipment [dirty] room) and the load out area (if separate).
  - 2. Decontamination of all personnel leaving the containment area.
  - 3. Decontamination of all Equipment, Tools, Bagged or Containerized Waste, and other items leaving the Containment Area.
  - 4. Decontamination of all areas of the Containment/work area to prepare it for clearance sampling.
- B. Provide decontamination where and to the extent shown on the drawings (if provided), as specified herein and as required by other sections of this specification and as needed for a complete, safe, and proper abatement work process and project work area.
- C. Related Work
  - 1. Documents affecting the work of this section include, but are not necessarily limited to General Conditions, Supplementary Conditions, Sections in all Divisions of this specification and as shown on the drawings (if provided).

**1.2 SUBMITTALS**

- A. Comply with the pertinent provisions of Section 01302 - Submittals.

## **PROJECT LEAD-SAFE KCK,**

## **LEAD ABATEMENT SPECIFICATION**

### **B. Product Data**

1. Materials list of items proposed to be provided under this Section;
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
3. Shop drawings in sufficient detail to show fabrication, installation, anchorage, and interface of the work of this Section with the work of adjacent trades;
4. Manufacturer's recommended installation, application or use procedures, which, when approved by the Project Lead-Safe KCK Representative, will become the basis for accepting or rejecting actual installation, application, or use procedures used on the Work.

### **1.3 QUALITY ASSURANCE**

- A. Use adequate numbers of skilled workmen who are thoroughly trained, licensed and experienced in the necessary skills, crafts, and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

### **1.4 DELIVERY, STORAGE, AND HANDLING**

- A. All materials shall be delivered to the project site in their original cartons or packing. All Materials shall be stored in a safe, secured, dry area. Heat shall be provided for all materials affected by cold weather and temperature reduction appliances shall be used for all materials affected by hot weather.

## **PART 2 - PRODUCTS 2.1**

### **Materials**

- A. The following non-inclusive list of materials will be considered for decontamination use on lead-based paint abatement projects:
1. Waste disposal bags - 6-mil thick polyethylene bags labeled with minimum two-inch high letters stating "Caution Lead Hazard".
  2. Disposal drums - Non-porous, sealable/lockable drums for disposal of items which could tear bags.



3. Disposal Container - Roll-off dumpsters which are lined with a minimum of two layers of 6-mil polyethylene sheeting. Dumpsters shall have a solid and lockable top.
4. Signs and labels - Illuminated notification signs, visible from all angles of approach to the dwelling units, which include the phrase "Caution Lead Hazard, Keep Out , No Smoking or Eating", in bold lettering at least two inches high. Also provide signage which complies with applicable OSHA regulations and reads "Warning - Lead Work Area - Poison - No Smoking or Eating." Signage shall comply with all applicable OSHA regulations. Construction area caution and warning signs, web fencing and/or barrier tape indicating "Authorized Personnel Only" without reference to lead-based paint are also required to restrict access to authorized personnel only.
5. Duct tape, adhesive, and fasteners for polyethylene, plywood, disposal bags, and drums.
6. Filters - HEPA filters, organic vapor filters, pre-filters for ventilation units and vacuums, and water filtration.
7. Towels - Disposable towels for drying after personal decontamination.
8. Soap - Adequate supplies of soap for showering and personal decontamination shall be available at all times during the project.
9. Wet wash solution (lead removal agent) - Solution containing a 5 percent solution of TSP or a non-TSP lead removal detergent (i.e., LEDIZOLV or equivalent), mixed according to manufacturer's recommendations.
10. Surface sealing materials - Materials such as wax, polyurethane, varnish, paint, or other sealant material as approved by the Project Lead-Safe KCK Representative and used in accordance with manufacturer's recommendations.

## 2.2 Equipment

- A. The following non-inclusive list of equipment will be considered for decontamination use on lead-based paint abatement projects:
  1. Carts - Constructed of opaque materials with a secure fitting lid used for transporting filled disposal bags from Load Out to temporary disposal storage facilities.
  2. Cleanup equipment - The Contractor shall provide an adequate number of mops,

rags, shovels, buckets, scrapers, brushes, spray washers, [etc. to](#) clean up lead-based paint debris, dust, and water as removal and cleaning proceeds. At least one wet/dry HEPA-filtered vacuum cleaner shall be available. Vacuums not HEPA-filtered and brooms used in dry conditions are not permitted on-site.

3. Electrical power - Ground wire equipped extension cords without splices. A sufficient number of GFCIs to protect all electrical equipment inside the abatement area.
4. HEPA vacuum(s) - The Contractor shall provide HEPA vacuums for personal decontamination, clean-up and for abatement project site clean-up before, during and after abatement.
5. Water sprayer - A water sprayer/mister to wet all dust and/or debris that is generated by the abatement or associated work.
6. Ladders and scaffolding - A sufficient number of OSHA approved and properly used and maintained ladders, scaffolds, platforms, and walkways for use during preparation, abatement, inspections, and cleanup shall be provided by the Contractor.
7. Lighting - The Contractor shall supply a sufficient number of portable lighting units to provide adequate illumination (in compliance with all OSHA requirements) at all locations within the work areas.
8. Shower facilities - Showers providing a continuous supply of hot (105 °F) and cold water, adjustable by the user, whenever abatement personnel or visitors are in gross removal areas requiring shower decontamination facilities. Clean personnel exiting the shower shall not pass contaminated surfaces before entering the Clean Room. The shower shall be supplied with soap and shampoo, and a shower basin with a drain or grate to elevate the person's feet above pooled water. All water shall be appropriately collected, contained, filtered, and stored in appropriate containers.
9. Other abatement equipment - All other tools, equipment, and accessories as may be necessary to complete the requirements of the project, as specified in these documents, and as required by local, state, and federal requirements and/or guidelines, in a safe and efficient manner.

## PART 3 - EXECUTION

### 3.1 DECONTAMINATION PROCEDURES

Decontamination procedures shall at least consist of the following:

#### A. Decontamination Facility and Load Out Area

Parts of the decontamination facility and the entire load out area (if separate) shall be decontaminated daily or at the end of each work shift.

1. Decontamination of the decontamination facility shall consist of:
  - a. Changing filters in the shower drainage filter system daily. All filters shall be considered contaminated with lead and disposed of accordingly, unless tested by hazardous waste characterization and shown to be otherwise.
  - b. Washing down all surfaces of the shower rooms after each shift and clean debris from the shower pan. Wash shower room with TSP or other approved lead removal agent at least once a day. Dispose of all waste and residue as lead contaminated materials. The "air lock" on either side of the shower room shall also be washed down with TSP or other approved lead cleaning agent at the same time as the shower room.
  - c. HEPA vacuum and damp wipe and detergent (i.e., TSP or approved equal) clean all surfaces of the equipment room after each shift change. Provide an additional floor layer of 6-mil clear polyethylene sheeting per shift change and remove the contaminated layer after each shift.
2. Decontamination in the Load Out shall consist of the following:
  - a. HEPA vacuuming and wet wash down all surfaces of the load out and the load out "air lock" to the outside at the end of each load out procedure where waste, equipment, etc, is loaded out and at the end of each day or work shift. All visible debris, particles, dust, and residue shall be removed from all surfaces so area appears completely clean.

#### B. Personnel Decontamination

Abatement personnel leaving the containment work area shall be decontaminated in the following manner. Each time a supervisor, worker, or other Contractor represented person exits the abatement work area containment they shall follow the following listed procedures.

All personnel must leave the abatement area when going to eat, smoke, dip/chew tobacco, drink, use toilet facilities, chew gum, apply make-up, or any other activity which may contaminate oneself with lead dust or debris.

1. HEPA vacuum all protective work clothing while it is still being worn in the equipment room, taking care to remove any visible contamination or debris;
2. Remove protective clothing and gear in the equipment (dirty) area of the designated changing area (except respirator). Remove hood and then protective coveralls by carefully rolling down the garment, turning inside out to reduce exposure to dust, then remove gloves. If latex, vinyl, nitrile or other protective material gloves are worn under leather or rubber gloves, those types of gloves are the last item to be removed, after respirator removal;
3. Still wearing respirators, and completely naked proceed thru the "air lock" to the showers. Showering is mandatory when meeting or exceeding the OSHA PEL, otherwise at least face and hand washing facilities must be on-site, functional and readily available at all times. Care must be taken to follow reasonable procedures in removing the respirator to avoid lead dust while showering. The following procedure is recommended as a minimum:
  - a. Thoroughly wet the body including hair and face. If using a Powered AirPurifying Respirator (PAPR) hold blower unit above head to keep canisters and battery dry.
  - b. With respirators still in place thoroughly wash body, hair, respirator face piece, and all parts of the respirator (except the blower unit and battery pack on a PAPR). Pay particular attention to clean the seal between the face and respirator and under the straps. Respirator cartridges shall be wet misted and wiped, but may be protected from being overly wetted by placing duct tape or palms of hand over the air inlets;
  - c. Take a deep breath, hold it and or exhale slowly, completely wet hair, face, and respirator. While still holding or exhaling slowly, remove respirator and hold it away from face before starting to breathe.
  - d. Carefully wash face piece of respirator inside and out. If using PAPR: shut down in the following sequence, fit cap inlets to filter cartridges, then turn off blower unit (this sequence will help keep debris which has collected on the inlet side of filter from dislodging and contaminating the outside of the unit).  
Thoroughly damp wash blower unit and hoses and carefully wash battery pack with wet rag. Be extremely cautious of getting water in the battery pack as this may short out and destroy battery. Dispose of wet filters as lead contaminated material.

4. After respirator has been removed, finish showering completely with soap and water; rinse thoroughly and then rinse shower room walls and floor prior to exiting. Vinyl, latex, nitrile or other protective "inner" glove is to be removed at this point.
5. Proceed from shower through "airlock" and into Changing room and change into street clothes or into new disposable work clothing if planning to return to the work area.
6. Respirators shall be cleaned at a minimum, at the end of each work day or as is otherwise required by the respiratory protection program, respirator cartridges must be removed, and respirators cleaned in a disinfectant solution, clean water rinsed and air dried. Clean respirators should be stored in non-contaminated plastic bags and crush proof containers when not in use. The Contractor or his/her designee shall inspect all respirators daily for broken, missing, or damaged parts (see Section 01556 - Respiratory Protection).
7. Any abatement person transferring bags of removed waste material and other items out of the loading area shall also dispose of their protective clothing and respirator cartridges as indicated above. Any and all "street" clothing worn underneath disposable coveralls shall be laundered at the Contractor's expense or disposed of as lead contaminated. All personnel shall keep a set of spare "street" clothing in the clean room to wear if necessary.

C. Decontamination for Equipment, Tools, Bagged or Containerized Waste

These items and any other items leaving the containment area shall be thoroughly HEPA vacuumed and wiped with TSP detergent or other approved lead removing agent equal, so that all visible debris, particles, dust, and residue is removed and the items appear completely clean.

D. Decontamination of the containment work area shall be in accordance with Section 01421 - "Project Clearance" and the following:

1. After the Project Lead-SafeKCK0 Representative has passed the work area for completeness of abatement (regardless of whether the abatement is interim controls, physical removal, chemical removal, encapsulation, enclosure, for exterior soil or dust or for any other type of abatement or hazard control), the Contractor shall clean the entire abatement/work/containment area to remove **all** debris, waste, particulates, dust, and residue.

2. After all visible debris, waste, particulates, dust, and residue has been removed from the plastic floor covering, the wall, floor, and other plastic coverings, except plastic on doors, windows, vents and all other penetrations through any wall, ceiling or floor (e. g., critical barriers), shall be removed as contaminated waste. The plastic covering shall carefully be folded and rolled inward to contain any and all contaminants. After the plastic is removed, except plastic on doors, windows, vents and all other penetrations through any wall, ceiling or floor (e. g., critical barriers), all surfaces of the abatement work area shall be thoroughly and properly cleaned. Until final wipe clearance samples as outlined in Section 01421, "Project Clearance" pass, the decontamination facility shall stay intact and be used by all persons entering the work area. All critical barriers over windows, doors, vents, and all other penetrations shall also remain in place until successfully achieving proper final clearance. Until successfully achieving final clearance, all Contractor personnel entering the work area shall continue to wear and properly use respirators, protective clothing and all other necessary personal protective equipment (PPE).
  - a. Cleaning shall be by HEPA vacuuming first, then wet washing with a lead removing agent (a test area shall be used to determine if the agent will damage any finishes) and finishing with HEPA vacuuming again. The abatement area shall visually appear completely clean. If the area does not appear clean, in the opinion of the LSKCK representative, then the HEPA vacuuming, wet washing with lead removing agent, and HEPA vacuuming sequence shall be repeated until it does appear clean, in the opinion of the LSKCK representative.
3. After completeness of cleaning is approved by the Project Lead-Safe KCK Representative, the floor shall be sealed in accordance with the manufacturer's recommendations for the materials used (e. g., concrete floors - use an appropriate best quality concrete sealer, wood floors - use a best quality polyurethane sealer, tile/sheet vinyl floors - use a heavy duty, best quality wax, etc.). Components which have been removed and replaced in accordance with Section 02065 (Removal of Lead-Based Painted Substrates) of these specifications, as well as all newly installed components, shall be sealed/painted in accordance with Section 09952 (Painting) of these specifications.
  - a. After the abatement area coating and sealing materials have dried (a minimum of 24 hours) then floor surfaces shall be cleaned again by:
    - I. HEPA vacuum all floor or horizontal surfaces, then wet wipe with a lead removal agent and HEPA vacuum again.

**SECTION 01715 - DECONTAMINATION**

- II. After the areas have been sealed and the horizontal and floor surfaces have been cleaned again, then clearance dust wipe sampling will be conducted in accordance with section 01421 - Project Clearance.

**END OF SECTION**

## **Division 2 Sitework**



**SECTION 02065 - REMOVAL OF LEAD CONTAINING MATERIALS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

**A. Abatement Procedure**

Abatement procedures address both specific substrate components and the generalities of substrate/component removal. All removed lead containing materials and the resulting debris require wrapping, bagging or some other type of proper containerization. The generalities of removal are described below. All resulting containers of removed materials and/or debris shall be carefully handled to reduce the potential of ripping, bursting, or otherwise diminishing the integrity of the container.

1. The Contractor must ensure that leaded substrates, debris or lead-contaminated materials are not burned or disturbed so they result in lead exposure to workers, residents, children, the environment or observers.
2. Care shall be taken to avoid damage to adjacent finished surface areas during the removal of materials or items, whether those items are replaced or not. The Contractor shall run a utility knife or other suitable tool around the edge (score) of the abatement substrate and any adjacent (non-abated) substrate to cut any bonding between the substrates and thereby eliminate damage when an item is removed.
3. If substrates/components/materials to be removed contain gross areas of loose or peeling paint, these areas shall be wet scraped or HEPA vacuumed prior to removal. The paint chips shall be contained either in the HEPA vacuum or in a separate 6-mil polyethylene bag. Temporary Encapsulants for this purpose are acceptable.
4. Substrates/components/materials which are removed for replacement shall be wrapped with 2 layers of 6-mil polyethylene and stored for disposal. All disposal shall be in accordance with the more stringent of all applicable local, state and/or Federal regulations.

- B.** All work area containment shall be constructed and provided in accordance with Section 01506 "WORK AREA CONTAINMENT" and other sections as applicable.

- C. All worker protection shall be provided in accordance with Section 01555 "WORKER PROTECTION" and other applicable sections.
- D. Other related work:
  - 1. Documents affecting work of the Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, all Sections in Division 1 of the Specification, Section 02067, "Disposal of Waste Materials," and Section 09952, "Painting," of this Specification and as shown on the drawings (if provided).

#### 1.2 SUBMITTALS

- A. Comply with pertinent provisions of Section 01302. B.

Product data:

- 1. Materials list of items proposed to be provided under this Section;
- 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
- 3. Manufacturer's recommended installation, application or use procedures (as pertinent) which, when approved by the Project Lead-Safe 2000 Representative, will become the basis for accepting or rejecting actual installation, application or use procedures used on the work.

#### 1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained, licensed and experienced in the necessary skills and crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

#### 1.4 DELIVERY, STORAGE AND HANDLING

- A. All materials shall be delivered to the project site in their original cartons or packing. All materials shall be stored in a safe, secured, dry area. Heat shall be provided for all materials/items affected by cold weather and temperature reduction shall be provided for all materials/items affected by heat.

**LEAD-BASED PAINT SUBSTRATES/COMPONENTS**

Lead-based painted substrates/components to be removed shall be removed in a manner which prevents damage to all adjacent surfaces and minimizes dust releases, in a professional workmanlike manner.

- A. Remove the items as shown on Attachment A

**PART 2 - PRODUCTS****2.1 APPROVED MATERIALS**

- A. The following materials will be considered for use on LBP substrate removal projects:
1. Polyethylene sheeting - 6-mil thick for covering non-removable items, floors, walls, ceilings, for construction barriers and wrapping objects too large to place into waste disposal bags. Opaque polyethylene shall be used for barriers on public side of enclosures. Nylon, polyester, or fiberglass reinforced polyethylene sheeting shall be used where additional strength is required. Fire retardant polyethylene shall be used where the potential for fire exists.
  2. Disposal containers - Non-porous, sealable drums for disposal of items which could tear bags.

**2.2 EQUIPMENT**

- A. The following equipment shall be considered for use on LBP substrate/component removal projects:
1. Carts - Constructed of opaque materials with a secure fitting lid used for transporting filled disposal bags from Load Out to temporary disposal storage facilities.
  2. Cleanup equipment - The Contractor shall provide an adequate number of mops, rags, plastic scoops, shovels, buckets, scrapers, brushes, spray washers, [etc. to](#) clean up lead-based paint debris, dust, and water as removal and cleaning proceeds. At least one wet/dry HEPA-filtered vacuum cleaner shall be supplied. Vacuums not HEPA-filtered and brooms are not permitted on-site.
  3. Electrical power - Ground wire equipped extension cords without splices. A

## **PROJECT LEAD-SAFE KCK LEAD ABATEMENT SPECIFICATION**

sufficient number of GFCIs to protect all electrical equipment inside the Removal Area.

4. HEPA vacuum(s) - The Contractor shall provide HEPA vacuums for personal decontamination, clean-up, and for abatement project site clean-up during and after abatement.
5. Water sprayer - A water sprayer/mister (e.g. hand pump garden type) to wet all dust and/or debris that is generated by the abatement or associated work.
6. Ladders and scaffolding - A sufficient number of OSHA approved and properly used and maintained ladders, scaffolds, platforms, and walkways for use during preparation, removal, inspections, and cleanup shall be provided by the Contractor.
7. Lighting - The Contractor shall supply a sufficient number of portable lighting units to provide adequate illumination (in compliance with all OSHA requirements) at all locations within the work areas.
8. Sander - Only sanders equipped with shrouded heads which are attached to HEPA filtration vacuums will be allowed for use.
9. All circular saws, reciprocating saw and all other similar devices shall be equipped with a shrouded head and attached to a HEPA filtration vacuum.
10. Other abatement equipment - All tools and equipment which has the potential of generating lead containing dusts shall employ local exhaust ventilation (shall be attached via hose to a HEPA vacuum). All other tools, equipment, and accessories as may be necessary to complete the requirements of the project, as specified in these documents, and required by local, state, and Federal requirements and/or guidelines, in a safe and efficient manner.

### **PART 3 - EXECUTION**

#### **3.1 GENERAL REMOVAL PROCEDURES**

- A. The work area and items to be removed shall first be HEPA vacuumed. All visible, loose debris or dust shall be vacuumed or wet wiped clean.

- B. The work area and items to be removed shall be wet misted with a water sprayer or similar device to reduce dust or particles in the air. Whenever dust can be seen in the air as a result of the removal work, spray wet mist the area again to reduce the levels of dust or particles in the air.
  - C. Conduct all removal work in a slow, careful, deliberate manner to minimize the creation of any dust or debris and to prevent damage to any adjacent surfaces that are to remain. Use all tools in the correct manner appropriate for their design.
  - D. After the lead-based paint substrates/components have been removed, HEPA vacuum the area behind the removed substrate/component to pick up any loose debris or dust.
  - E. All removed items which have nails or other sharp fasteners shall have the fasteners removed and/or bent over completely so they will not puncture the bags they are placed in or the plastic they are covered with.
  - F. Removed items must be cut into small lengths to facilitate carrying and disposal. No removed item shall be longer than 8 feet in length. All cutting shall be completed with hand saws or power saws that are equipped with a shrouded head that is attached to a HEPA vacuum or filtration system.
  - G. All removed substrates/components shall be placed in 6-mil disposal bags or wrapped in 6-mil plastic with all seams securely sealed.
  - H. All debris, waste, cleaning materials, hardware or other removed items associated with the lead-based painted substrates/components item which is being removed shall be disposed of in separate disposal bags and shall not be included with disposal of the substrate item.
- 3.2 The general lead-based painted substrates/components items which may be required to be removed, along with specialized specific removal procedures are as follows (refer to Attachment A for specific items to be removed):

- A. Baseboards (and shoe molding if present)
- B. Windows  
Sash, trim, casing/frame, stools and all other items associated with the window system(s)
- C. Door Removal

Doors and associated hardware shall be removed from the door frame. Hinges shall be removed from the door and left with the frame. Hardware on the door shall be removed or padded to prevent puncturing the polyethylene covering. All polyethylene wrapped doors shall be placed in a locked, covered dumpster.

D. Shelving Removal:

All shelving and cleats/shelf supports shall be removed and separated.

E. Cabinet Removal

Kitchen, bathroom, or other specifically designated cabinets shall be removed by a process which necessitates that the Contractor carefully pry the designated cabinet(s) away from the adjoining surfaces with constant, gentle pressure to protect the cabinets and adjacent surfaces from damage. The cabinet(s) should be carefully disassembled for ease of wrapping for disposal. Counter top, if lead-based painted, shall be wrapped separately from the base cabinets. Cabinet components shall be wrapped in 4 foot long lengths, maximum.

F. Wall Removal

Prior to wall removal, all trim (chair rail, baseboard, ceiling molding, etc.) present on the wall shall be removed and wrapped in accordance with described procedures, if covered with leadbased paint. Any remaining fixtures, toilets, sinks, lights, light switches, medicine cabinets, receptacles, etc., shall be properly removed, decontaminated, and stored in a manner which will ensure that those items will not become re-contaminated. The Contractor shall contact the Project Lead-Safe 2000 for direction as to disposition of all decontaminated and stored items. The Contractor shall take precautions to disconnect electric circuits, plumbing lines or other services such as fire alarms, etc., before the wall is removed. All utility lines shall be completely deenergized, capped or turned off, using proper lockout/tagout procedures, at the main service entrance for the area prior to wall substrate removal.

The actual wall removal process will employ the use of a cold chisel, reciprocating saw, "sawzall", or sledge hammer (or other appropriate device). The Contractor shall remove as large a portion of material as possible at a time that can be easily managed, wrapped and carried. Caution must be exercised to prevent damage to all adjacent surfaces or existing utilities or services which will remain. Wall material and debris shall be containerized at a size that is easily handled and carried. Unless otherwise noted, all wall materials shall be removed. All studs, blocking and other wall structure shall remain intact, in sound condition (no member cut, moved or otherwise damaged). Wall lead-based painted substrate which is removed shall be frequently cleaned to prevent abatement personnel from standing and working in debris. Large debris shall constantly be removed; other debris shall be shoveled or HEPA vacuumed as necessary to keep floor area clear.

## **PROJECT LEAD-SAFE KCK LEAD ABATEMENT SPECIFICATION**

### **G. Ceiling Molding Removal**

Removal of all ceiling molding shall be accomplished by gently prying the ceiling molding away from the wall surface in such a manner to prevent damage to the wall and ceiling.

### **H. Wooden Door Frame and Trim Removal**

All wooden door frame, fastening hardware, screws, bolts, nails, etc., shall be cut and/or removed to facilitate removal without creating extensive dust or debris and without damaging any adjacent surfaces.

### **I. Metal Door Frame and Trim Removal**

All metal door frame and trim removal shall be completed by removing or cutting all fasteners, attachments, anchors as necessary to remove the frame and trim without creating extensive dust or debris and without damaging any adjacent surfaces. All sharp edges on any metal door frame or trim shall be taped with duct tape (or other appropriate means) as necessary to prevent puncture through the polyethylene covering.

### **J. Gutter/Downspout Removal**

All gutters/downspouts shall be removed, along with all hangers, straps, fasteners and other associated hardware. The removed gutters/downspouts shall have duct tape (or other appropriate means) placed on any sharp or exposed edge which might puncture the polyethylene wrapping.

### **K. Soffit/Fascia Removal**

All soffit/fascia shall be removed along with all associated trim work (if painted and/or as necessary to facilitate removal of soffit/fascia).

### **L. Metal Gravel Stop Roof Flashing Removal**

All metal gravel stop and associated flashing and fasteners shall be removed. All sharp or bare edges shall have duct tape (or other appropriate means) placed over them as necessary to prevent puncture through the polyethylene coverings.

**M. Exterior Plywood Siding, Lap Siding or Other Exterior Siding Material Removal**

Remove exterior siding materials completely with all associated fasteners, flashing and other accessories. Leave remaining sheathing and/or studs clear of all fasteners and ready to receive new non-lead-based paint siding materials.

**N. Stair System Component Removal**

All designated stairway system components (e. g., stinger, tread, risers, balustrade, etc.) shall be properly removed. All associated hardware shall also be removed. All removed items shall be cut into lengths that facilitate containerization and ease of carrying/handling. All associated handrail hardware shall be containerized separately from the items removed.

- 3.3 New replacement item shall match existing items removed in size, shape, design, function, accessories, materials, color, texture, and all other features, except it shall be finished with non-lead containing paint or finish. See new specification section if replacement items are different from those removed.

**END OF SECTION**



**02066 - LEAD CONTAMINATED SOIL & EXTERIOR DUST REMEDIATION**

**PART 1 - GENERAL**

**1.1 SUMMARY**

All soil lead and/or dust lead removal must be accomplished in a manner which prevents damage to adjacent surfaces and at all times protects the health and safety of workers, the environment and the general public. All efforts must be taken to eliminate the potential for dust releases and water runoff during all removal operations.

- 1.2 All previously non-contaminated soils and/or dusts which are contaminated as result of Contractor operations shall be remediated in accordance the information contained within this specification section (SECTION 02066).
- A. All work area containment shall be constructed and provided in accordance with Section 01506, "WORK AREA CONTAINMENT" and other sections as applicable.
  - B. All worker protection shall be provided in accordance with Section 01555, "WORKER PROTECTION" and other applicable sections.
  - C. Soil Lead abatement shall be completed before any exterior lead-based dust is abated or cleaned, and it shall be completed before any interior lead-based paint abatement or interior dust lead abatement is completed.

**1.2 OTHER RELATED WORK:**

- 1. Documents affecting work of this Section include, but are not limited to, General Conditions, Supplementary Conditions, Sections in Division I and Section 02067 of this specification and as shown on the drawings (if provided).

**1.3 SUBMITTALS**

- A. Comply with pertinent provision of Section 01302. B.

Product data:

- 1. Materials list of items proposed to be provided under this Section;
- 2. Manufacturer's specifications and other data needed to prove compliance with specified requirements;
- 3. Shop Drawings in sufficient detail to show fabrication, installation, anchorage, and interface of the work of this Section with the work of adjacent trades;
- 4. Manufacturer's recommended installation, application or use procedures, which, when approved by the Project Lead-Safe KCK Representative, will become the basis for

accepting or rejecting actual installation, application or use procedures used on the work.

#### 1.4 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained, licensed and experienced in the necessary skills and crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

#### 1.5 DELIVERY, STORAGE AND HANDLING

- A. All materials shall be delivered to the project site in their original cartons or packing. All materials shall be stored in a safe, secured, dry area. Heat shall be provided for all materials affected by cold weather and temperature reduction shall be provided for all materials/products affected by heat.

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## PART 2- PRODUCTS

### 2.1. Materials

1. Signs and labels - Illuminated notification signs, visible from all angles of approach to all dwelling units, which comply with OSHA regulations and read "Warning - Lead Work Area - Poison - No Smoking or Eating." Letters shall be in bold lettering that is at least two inches tall. Construction/regulated area caution and warning signs and barrier tape shall also be provided. When at all possible, tape shall be installed 20 feet outside and around soil abatement or dust abatement area. Sign shall indicate "Authorized Personnel Only" without reference to lead abatement or dust lead remediation.
2. Soil materials - Soil for backfilling excavations shall be free of debris, roots, wood, scrap material, vegetation, refuse, and frozen, deleterious or objectionable materials. Unless specified otherwise, the maximum particle diameter shall be one-half the lift thickness at the intended location. Total lead content of new soil shall be less than 50 PPM.
3. Fencing - Temporary security fencing may be required to prevent unauthorized entry into soil lead abatement work areas.
4. Buried Utility Warning and Identification Tape - Polyethylene warning tape manufactured specifically for warning and identification of buried utility lines. Provide tape on rolls, 3" minimum width, color coded as specified below for the intended utility with warning and identification imprinted in bold black letters continuously over the entire tape length. Warning and identification to read, "CAUTION, BURIED (INTENDED SERVICE) LINE BELOW" or similar wording. Color and printing shall be permanent, unaffected by moisture or soil.

#### Warning Tape Color Codes

Yellow:	Electric, Gas, Oil, or other Dangerous Materials
Orange:	Telephone and other Communications
Blue:	Water Systems
Green:	Sewer Systems
White:	Steam Systems
Gray:	Compressed Air

### 2.2 Equipment

1. Backhoe (e.g., Bobcat) or other similar excavating machinery.
2. Carts - Constructed of opaque materials with a secure fitting lid used for transporting filled disposal bags from Load Out to temporary disposal storage facilities.

3. Cleanup equipment - The Contractor shall provide an adequate number of mops, rags, shovels, buckets, brushes, vehicle mounted broom and/or vacuum devices, spray washers, [etc. to](#) clean up soil lead debris, exterior dusts, and water as removal and cleaning proceeds. At least one wet/dry HEPA-filtered vacuum cleaner shall be supplied. Vacuums not HEPA-filtered and brooms which are used with dry sweeping practices are not permitted on-site.

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4. Electrical power - Ground wire equipped extension cords without splices. A sufficient number of GFCIs to protect all electrical equipment inside the Removal Area.
5. HEPA vacuum(s) - The Contractor shall provide HEPA vacuums for personal decontamination, cleanup and for abatement project site cleanup during and after abatement.
6. Water sprayer - A water sprayer/mister (e.g., hand pump garden type, truck mounted sprayer, etc.) to wet all dust and/or debris that is generated by the abatement or associated work.
7. Lighting - The Contractor shall supply a sufficient number of portable lighting units to provide adequate illumination (in compliance with all OSHA requirements) at all locations within the work areas.
8. Dump truck which is lined with at least two layers of 6-mil polyethylene sheeting for the transport of contaminated soil. Soil load shall be completely covered so as to prevent escape of any contaminated soil.
9. Pavement cleaning machines - vehicle mounted broom sweepers, vacuum assisted broom sweepers, vacuum pavement sweepers, and other dust lead cleaning equipment.
10. Other abatement equipment - All other tools, equipment, and accessories as maybe necessary to complete the requirements of the project, as specified in these documents, and required by local, state, and Federal requirements and/or guidelines, in a safe, proper and efficient manner.

### PART 3 - EXECUTION

#### 3.1 ABATEMENT REQUIREMENTS

- A. Abate the areas as shown on Attachment A, in accordance with KDHE Representative requirements, meeting the following criteria:
  1. Abate contaminated soil, as shown on Attachment A, from the following areas to a depth of six (6) inches and replace with new soil as specified;

#### **SECTION 02066 - LEAD-CONTAMINATED SOIL & EXTERIOR DUST REMEDATION**

2. Mix/till the contaminated soil, as shown on Attachment A, to a depth of at least twelve (12) inches;
  3. Abate contaminated dust as shown on Attachment A
- B. Surface Preparation
1. Soil - Unless indicated otherwise, remove trees, stumps, logs, shrubs, and brush within the contaminated soil removal area. Remove stumps entirely. Grub out matted roots over 2" in diameter to at least 18" below the existing surface.
  2. Dust - Remove gross (large) debris and trash from area to be abated prior to removal of dust lead.
- C. Surface Drainage - Provide for the collection and disposal of surface and subsurface water encountered during construction. Completely drain the construction site during periods of construction to keep soil materials sufficiently dry. Provide temporary ditches, swales, and other drainage features and equipment as required to maintain appropriately dry soils. When unsuitable working surfaces exist for equipment and transport of materials, provide gravel as necessary to vehicle pathway for duration of project. Remove gravel areas and replace with clean soil at completion of project.
- D. Underground Utilities - The Contractor shall verify and mark the location and elevation of the existing utilities prior to starting construction. The Contractor shall contact the appropriate utilities for assistance in locating all existing utilities. Any time delays, civil or tort damages and/or fines for failing to properly identify existing utilities shall be the full responsibility of the Contractor, at no additional cost to the Project Lead-Safe KCK or the Owner.
- E. Machinery and Equipment - Movement of construction machinery and equipment over pipes during construction shall be at the Contractor's risk and sole expense. Repair or remove and provide new pipe for existing pipe that has been displaced or damaged. All Repair or replacement work shall be at the sole cost to the Contractor, at no additional cost to the Project Lead-Safe KCK or the Owner.

### 3.2 PREPARATION

## **SECTION 02066 - LEAD-CONTAMINATED SOIL & EXTERIOR DUST REMEDATION**

**3.3 SOIL REMEDIATION/EXCAVATION**

- A. Excavation - Excavate to contours, elevations, and dimensions indicated. Reuse excavated materials that meet the specified requirements for the material type required at the intended location. Keep excavations free from water. Refill with backfill and fill material and compact to 85 percent of ASTM D698 or ASTM D1557 maximum density. Unless specified otherwise, refill excavations cut below indicated depth with backfill and fill material and compact to 85 percent of ASTM D698 or ASTM D1557 maximum density.

**CONTRACTOR NOTE:** All excavated soil and remediated dust lead must be placed into roll-off type dumpsters and/or drums that have a lockable cover for controlling exposures during storage and/or transport. Containers must be designed to allow for safe handling, storage, and proper disposal in compliance with the more stringent of all applicable Federal, state, and local regulations. All containers shall be lined with a minimum of two layers of 6mil polyethylene sheeting. All containerized soil and dust shall be properly sampled and analyzed for hazardous waste characterization. If analytical results indicate that soil and dust is hazardous, soil and dust shall be handled, stored, transported, and disposed of in accordance with the more stringent of all applicable Federal, state, and local regulations. If analytical results indicate that soil and dust is non-hazardous, the soil and dust may be properly transported to a non-hazardous waste landfill for disposal.

- B. Backfilling - After contaminated soil has been excavated, "clean" soil must be brought in to backfill the void created during excavation. Clean soil must be sampled and tested by an NLLAP approved laboratory for total lead content prior to backfilling. Clean soil that has a total lead content less than 50 parts per million (ppm) must be provided. Clean soil shall be placed in a maximum of 6" lifts. Compact areas not accessible to rollers or compactors with mechanical hand tampers. Aerate material excessively moistened by rain to a satisfactory moisture content. Finish to a smooth surface by blading, rolling with a smooth roller, or both.
- C. Compaction - Determine in-place density of existing subgrade; if required density exists, no compaction of existing subgrade will be required. Density measurements specified herein are for cohesionless materials. When cohesive materials are encountered or used, density requirements may be reduced by 5 percent. Compact underneath areas designated for vegetation and areas outside the 5' line of a structure to 85 percent of ASTM D698 or ASTM D1557 maximum density.
- D. Protecting Existing Structures - Contractor shall protect existing fences, trees and

**SECTION 02066 - LEAD-CONTAMINATED SOIL & EXTERIOR DUST  
REMEDICATION**

shrubs (which are to remain), buildings, sidewalks, streets and other project improvements against all forms of damage. Any and all damaged items shall be restored to its original condition at the Contractor's sole expense.

- E. Containment - Contractor must stop all work if wind, rain or other weather factors reduce or diminish the containment of the contaminated soil. All spread of the contaminated soil or contamination resulting from lack of proper control of the contaminated soil shall be cleaned by the Contractor at his sole expense.

### 3.3 SOIL REMEDIATION - MIXING OF SOIL

- A. Existing soil shall be turned over with the less contaminated cleaner and deeper soil. Provide initial plowing of soil to one foot depth and then rototil, so as to thoroughly mix all soil, for final mixture. Test completed mixture to see if soil lead level has been sufficiently reduced (to less than 400 ppm ). If soil lead level is still high, remove approximately two inches of existing top surface of soil and replace with soil that has lead below 50 ppm.

### 3.4 FINISH OPERATIONS

- A. Grading - Finish grades as indicated within 1/10" of 1'. Grade areas to drain water away from structures. Grade shall drop at least 4" within the first 10' away from buildings.
- B. Seeding - Scarify existing subgrade to a depth of at least 2". Provide 4" topsoil for newly graded finish earth surfaces and areas disturbed by the Contractor. Seed shall match existing vegetation. Provide seed at 5 lbs. per 1,000 square feet or as specified by seed provider. Provide CID A-A-1909, Type I, Class 2, 10-10-10 analysis fertilizer at 25 lbs. per 1,000 square feet, or as specified by fertilizer manufacturer. Provide mulch and water to establish an acceptable stand of grass. Contractor shall guarantee germination and grass viability for a minimum of one (1) year. All grass which fails to thrive and remain viable within one (1) year of initial seeding shall be re-seeded by the Contractor at the Contractor's sole expense.
- C. Removal of Unsuitable Materials - Remove from Owner's property any surplus or other soil material not suitable for filling or backfilling, including brush, refuse, stumps, roots, timber, etc.

### 3.5 FIELD QUALITY CONTROL

## **SECTION 02066 - LEAD-CONTAMINATED SOIL & EXTERIOR DUST REMEDATION**



**PROJECT LEAD-SAFE KCK**

**LEAD ABATEMENT SPECIFICATION**

- A. Sampling and Testing by Contractor - Take the number and size of samples required to perform the following tests:
1. Test fill and backfill material in accordance with ASTM C 136; ASTM D2847 gradation limits; ASTM D1140 for material finer than No. 200 sieve; ASTM D4318 for liquid and plastic limits; ASTM D698 or ASTM D1557 for moisture density.
  2. Test density in accordance with ASTM D1556, or ASTM D2922 and ASTM D3017. When ASTM D2922 and ASTM D3017 are used, verify density test results by performing an ASTM D1556 density test at a location already ASTM D2922 and ASTM D3017 tested as specified herein. Perform an ASTM D1556 density test at the start of the job, and for every 10 ASTM D2922 and ASTM D3017 density tests thereafter. Test each lift at randomly selected locations.
- B. Sampling and Testing by Project Lead-Safe KCK Representatives:
1. Areas abated of exterior dust lead shall meet a clearance level criteria of 500 mg/ft<sup>2</sup>. Should areas fail clearance level, Contractor shall continually reclean all surfaces until surfaces pass clearance level. Additional cleaning shall be at the sole expense of the Contractor. Additional sampling/analysis shall be paid for by the Contractor in the form of a deduct change order to the original contract amount. Contractor shall pay \$50 per wipe sample collected, plus \$25 per hour of sample collection time.
  2. Soil shall be sampled by the Project Lead-Safe KCK to verify lead content. All soil which has lead content above that which is specified shall be removed and replaced at Contractor's sole expense until acceptable soil lead concentrations are met. Additional sampling analysis shall be paid for by the Contractor in the form of a deduct change order from the original contract amount. Contractor shall pay \$50 for each additional soil sample required to be taken, and \$25 per hour for each hour of the Project Lead-Safe 2000 soil collector's time.

**END OF SECTION**

## SECTION 02067 - DISPOSAL OF WASTE MATERIALS

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Familiarity and Responsibility for Regulations

Contractors are solely responsible for being aware of and compliance with all applicable local, state, and/or federal regulations regarding waste disposal. Where there exists a conflict between any regulations, the more stringent regulations shall apply.

##### B. Disposal Handling, Storage, Transport and Costs

The Contractor and his/her employees and subcontractors shall handle all lead contaminated debris or waste in a manner which prevents exposure to workers, occupants, others, and the environment. Waste containers shall not be dropped, thrown, ripped, or handled in any manner which may cause any lead exposure. Storage of waste shall be in a fully covered and locked container located in an area that is well lighted, secured and controlled. At no time will the Contractor be allowed to store more than 6000 KG of a hazardous waste. **NOTE:** All costs associated with all hazardous and non-hazardous waste handling, security, transport, and disposal shall be paid for by the Contractor.

##### C. Related Work

Documents affecting work of this Section include, but are not necessarily limited to General Conditions, Supplementary Conditions, Sections in Divisions 1, 2, 5, 6, and 9 of this specification, and as shown on the drawings (if provided).

#### 1.2 SUBMITTALS

##### A. Comply with pertinent provisions of Section 01302 - Submittals. B.

###### Product Data

1. Materials list of items proposed to be provided under this Section;
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
3. Shop drawings in sufficient detail to show fabrication, installation, anchorage, and interface of the work of this Section with the work of adjacent trades;

4. Manufacturer's recommended installation, application or use procedures, which, when approved by the Project Lead-Safe 2000 Representative, will become the basis for accepting or rejecting actual installation, application, or use procedures used on the Work.

### 1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained, licensed, permitted, and experienced in the necessary skills, crafts, and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. All materials necessary for completion of work of this section shall be delivered to the project site in their original cartons or packing. All Materials shall be stored in a safe, secured, dry area. Heat shall be provided for all materials and products affected by cold weather and temperature reduction shall be provided for all materials and products affected by heat.

## PART 2 - PRODUCTS 2.1

### Materials

- A. Polyethylene sheeting - 6-mil thick for covering non-removable items, floors, walls, ceilings, for construction barriers and wrapping objects too large to place into waste disposal bags. Opaque polyethylene shall be used for barriers on public side of enclosures. Nylon, polyester, or fiberglass reinforced polyethylene sheeting shall be used where required for outdoor barriers. Fire retardant polyethylene shall be used where the potential for fire exists.
- B. Waste disposal bags - 6-mil thick polyethylene bags labeled with minimum two-inch high letters stating "Caution Lead Hazard".
- C. Disposal drums - Non-porous, sealable and lockable drums for disposal of items which could tear bags.
- D. Steel drums - 55 gallon size which are resistant to chemicals. Drums shall be used for storage of liquids waiting for characterization and for disposal of waste.

- E. Disposal Container - Roll-off dumpsters which are lined with a minimum of two layers of 6-mil polyethylene sheeting. Dumpster shall have solid and lockable top.
- F. Carts - Constructed of opaque materials with a secure fitting lid, used for transporting filled disposal bags from load out to temporary disposal dumpster or other facility or area.

## PART 3 - EXECUTION

### 3.1 DISPOSAL OF WASTE MATERIALS CAUTION

#### **NOTE FOR CONTRACTORS:**

*All materials, whether hazardous or non-hazardous, shall be handled, secured and disposed of in accordance with all laws and the provisions of this Section and any and all other applicable federal, state, county or local regulations and guidelines. It shall be the sole responsibility of the Contractor to assure complete compliance with the more stringent of all laws and regulations relating to any and all hazardous and nonhazardous waste storage, handling, security, and disposal. Until hazardous waste characterization analytical results are available, all waste materials (including water) shall be handled, stored, and secured as hazardous wastes, and stored separately from all other wastes. All wastes shall be separated and segregated into appropriate waste streams.*

- A. Disposal Requirements. The Contractor shall contact the Regional EPA, State, local and all other pertinent authorities to determine lead-based paint waste and/or debris disposal requirements. The requirements of the Resource Conservation and Recovery Act (RCRA) must be complied with, as well as all other applicable federal, state, county or local waste plan requirements. During or after the actual abatement, the Contractor shall not: leave debris in the yard or in near-by property; place debris into an unsecured container; incinerate debris; dump debris at any unauthorized location; place debris in any unauthorized dumpster; transport any waste or debris in non-licensed or permitted vehicles; or introduce lead contaminated (non-filtered) water onto soils, into storm sewers (shall not be poured down yard inlet or street drain) or sanitary sewers (shall not be flushed down toilet or any other household, residential or commercial type drain system). The Contractor shall make all efforts to minimize the amount of hazardous waste produced (through accepted practices of waste separation/segregation, etc.). Additionally, the Contractor shall seek to identify and use a transport, storage, and disposal (TSD) facility that will incinerate, recycle, or reclaim all wastes, rather than having wastes sent to a landfill for whole disposal. All waste water, clean water, and wash water shall be so labeled. All waste water shall be labeled "filtered" (using 3 micron filter) or "non-filtered". All non-filtered waste water containers shall be labeled "hazardous waste" and with a date the Contractor began to collect contaminated water in that container. All filtered water must be hazardous waste characterization tested to confirm that it is or is not hazardous and disposed of accordingly.

- B. EPA ID Numbers. Prior to abatement, the Contractor shall contact EPA to determine if EPA Hazardous Waste Identification numbers are required for any waste generated during the conduct of any and all work for this project. If required, the Contractor shall apply for an EPA identification number from the appropriate Regional EPA office, particularly if more than 100 kg of hazardous waste is expected to be generated from the abatement process during any calendar month. The Contractor has the responsibility to coordinate this action through the State, and secure any additional numbers as required. The Contractor shall comply with the strictest requirement for waste generation resulting from all other applicable state or local regulations.
- C. Hazardous Waste Characterization. Testing on lead-based painted abatement items or abatement waste materials shall be completed by the Project Lead-Safe KCK's Representative. Testing shall be performed as soon as representative samples are generated. Contractor must keep Project Lead-Safe KCK's Representative advised regarding the ready availability of representative samples. Four (4) representative samples per waste stream will be taken and analyzed. Requests must be in writing and Contractor must allow a minimum of seven (7) working days to obtain results once samples have been received by the laboratory.

NOTE: Hazardous waste characterization tests will be paid for by the Contractor, if the Contractor has unnecessarily separated waste materials and/or debris, so as to create additional waste streams, or if the Contractor has consolidated waste streams and failed to appropriately and properly segregate and separate waste streams from one another.

- D. Testing of Materials. A representative number of samples of the following materials will be tested to determine whether or not they are hazardous:
- a. Paint chips and scraping debris and/or dust;
  - b. Waste water - filtered and non-filtered, including all wash water;
  - c. Dust from HEPA filters;
  - d. All lead-based painted component/substrate items, such as, but not limited to; porch ceilings, gables, doors, soffits, windows, fascia boards, trim, siding, and other items painted with lead-based paint and scheduled for removal;
  - e. Plastic sheets, duct tape, or tape used to cover floors or other services during the lead-based paint abatement;
  - f. Solvents and caustics used during the abatement process (if any);
  - g. Rags, sponges, mops, scrapers, HEPA vacuum filters, and other materials used for abatement, and clean-up;
  - h. Soil or exterior dust.
  - i. Disposable work clothes and respirator filters; and,
  - j. Any other items contaminated with lead-based paint or items produced as a result of lead-based paint abatement activity.
- E. Storage, Inspection and Record Keeping Requirements. Any item found to be hazardous, by way of testing, shall be kept in a secured area and lockable container, that is inaccessible to all persons other than abatement personnel. All hazardous waste shall be labeled "Lead-Based Paint Abatement Hazardous Waste" and a date that the Contractor began to collect waste in that

container. All hazardous and non-hazardous waste shall be kept in separate containers. All hazardous waste shall be stored, handled, transported, and disposed of in a manner to meet the more stringent of all federal, state, and local requirements. The Contractor shall, on at least a weekly basis, inspect all waste containers to ensure that the containers and the container integrity are sound and continue to be appropriate for the wastes stored in the containers. The Contractor shall keep a journal which records the results of all container inspections conducted and includes the dates and times of the inspection, as well as the name of the individual(s) conducting the inspections.

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### 3.2 REGULATIONS

The Contractor will be required to comply with most stringent of all requirements which apply to waste shipment, disposal, or other items related to lead or lead-based paint.

### 3.3 TRANSPORTATION

A. If the Contractor is not a RCRA/DOT/EPA/MDNR certified Hazardous Waste Transporter, the Contractor shall retain the services of a certified, permitted and licensed transporter to move the waste. The Contractor shall require the certified permitted and licensed hazardous waste transport firm to follow DOT, EPA and any/all other federal, state, and local applicable regulations. The Contractor shall submit (as stated in the PreWork Submittals) to the Project Lead-Safe KCK's Representative, the disposal firm's qualifications to perform the work as specified herein. The Contractor shall be responsible for all actions of the waste hauler as pertaining to waste handling, removal, transport, and disposal under this Section and all EPA, DOT, MDNR and all other applicable regulations.

#### B. Waste Containers

The Contractor will comply with the requirements of this specification, as well as all applicable EPA, MDNR and DOT regulations for disposal containers. The Contractor shall contact the Federal, State and local authorities to determine their criteria for containers. In the case of any conflict in regulations or this specification, the more stringent requirements shall apply. All waste containers shall be labeled with the appropriate name or designation of contents and date which materials were placed first into the container.

1. The location of waste containers on-site shall be coordinated subject to Project Lead-Safe KCK Representative's approval.
2. The waste containers shall be solid, enclosed and lockable containers lined with at least two layers of 6-mil polyethylene sheeting. All containers shall be locked and secured at all times, except when loading or unloading.

### 3.4. EMERGENCIES

A. Contractor shall complete the following tasks in the event of an emergency:

1. Contact local fire, police, hospitals or local emergency response teams and inform those agencies of the type of hazardous activity at the project site and ask for assistance in the event of an accident;
2. Have an immediate means of communication with a regulatory agency in the event of an emergency;
3. Keep a list of locations and phone numbers of regulatory and emergency response agencies (i.e., police, fire, EPA, health department, hospital, emergency response team, etc.) on -site;

4. Train all employees to deal with types of accidents to be encountered at the project site, including hazardous material accidents. Provide documentation to the Project Lead-Safe KCK that employees have been trained in job site safety and emergency response;
5. Have a person on-site at all times, who is the emergency coordinator to ensure that emergency procedures are carried out in the event an emergency arises;
6. Keep and maintain a "right to know" manual at the project site containing MSDS for all materials used on-site that is in an easily accessible location which is known to all employees;
7. Keep and maintain suitable first aid kits at the project site and work locations; and,
8. Maintain adequate water supply to adequately decontaminate workers, allow for clean-up, and to allow for a minimum of fifteen minutes of uninterrupted water flow for the purpose of eye irrigation.

### 3.5 DISPOSAL PACKAGING.

- A. The Contractor shall place lead-based paint fragments, dust, waste, and debris produced as a result of any abatement activity in 6-mil polyethylene (plastic) bags that are air-tight and puncture-resistant. Specific items shall be packaged in the following manner:
  1. Cleaning Materials. The Contractor shall place all disposable cleaning materials such as sponges, mop heads, filters, rags, disposable clothing, [etc. in](#) 6 - mil polyethylene bags and properly seal them, if after testing, those materials are determined to be hazardous. All disposal bags shall have proper labeling on them.
  2. Contaminated Debris. In particular, the Contractor shall separate, at a minimum, label and containerize the following:
    - a. All paint or paint fragments removed by mechanical abrasion, vacuum blasting, surface preparation, or by any other abrasive abatement method;
    - b. All paint, paint fragments, solvents or other debris removed by chemical strippers (paint removers);
    - c. Contaminated (i.e., used, already worn) body suits;
    - d. HEPA vacuum contents, filters, respirator cartridges (paint chips, dust, or other abatement debris on plastic should always be HEPA vacuumed prior to picking up the plastic); and,
    - e. Any other waste or debris generated as a result of any activity on a lead abatement project.



Note: All hazardous wastes or materials shall be kept completely separate from all non-hazardous materials.

- f. Polyethylene Sheeting. The Contractor shall clean surfaces and equipment and containerize large debris. Prior to removing any 6-mil polyethylene sheeting, the Contractor shall lightly mist the sheeting in order to keep any non-visible dust down and fold the 6-mil polyethylene sheeting inward to contain any non-visible dust and to form tight bundles to containerize for disposal. The Contractor shall place all plastic sheeting in 6-mil thick polyethylene bags which are properly labeled and sealed.
3. Caustic debris. Materials that are caustic/corrosive which may "eat" or deteriorate plastic disposal bags shall be placed into metal or other appropriate disposal drums.

### 3.6 WASTE REMOVAL

- A. Contractor shall remove waste from the project site by completing the following tasks.
  1. Vehicles. The Contractor shall ensure that all hazardous and non-hazardous waste is transported in a placarded, permitted, licensed, covered and properly secured vehicles to the proper landfill, so as to meet all federal, state, and local requirements.
  2. Container Handling. The Contractor shall carefully place the containers into the truck or dumpster used for disposal. The Contractor or his employees shall not throw or drop containers or handle them in any manner which will cause or potentially cause damage to the container or an exposure to employees, others, or the environment.
  3. Dust or Debris. The Contractor shall ensure that the removal of all hazardous and/or non-hazardous lead-based paint abatement items be adequately covered, containerized, bagged, or enclosed, so as to assure that no dust or debris is released.
  4. Liquid Wastes. The Contractor shall contain and properly dispose of all liquid waste, including lead-contaminated wash water. The Contractor shall contact the local Publicly Owned Treatment Works (POTW) department to discuss the disposal alternatives of waste water generated during the project and dispose of it in accordance with all applicable federal, state, and local requirements.
  5. Containers. The Contractor shall HEPA vacuum and shall wet wipe all waste containers to ensure that there is no residual or visual contamination present, prior to removing the containers from the work area. All waste containers shall be labeled and placarded in accordance with all applicable state, local and federal regulations.

6. Solvents. The Contractor shall place solvent residues and residues from chemical strippers in drums made out of materials that cannot be dissolved or corroded by the chemicals. Solvents will be tested to determine if they are hazardous (toxic, corrosive, ignitable, or reactive). Solvents, caustic and acid waste must be segregated and not stored in the same containers.
7. Water Filtration. The Contractor shall filter all wash/rinse or other contaminated water with a filter capable of removing particles of at least 3 micron size. Other larger micron size filters may be used, prior to final 3 micron filtration. Dispose of filters as hazardous waste, unless testing indicates otherwise. Should the results of the hazardous waste characterization analysis indicate that filtered water has a lead concentration which meets or exceeds 5.0 parts per million (PPM), or other POTW disposal criteria, the Contractor shall continue to filter all liquids until analysis indicates lead concentrations less than 5.0 PPM, or the applicable POTW requirements.

**END OF SECTION**

## **Division 5**

### **Metals**

**SECTION 05582 - METAL ENCLOSURES**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Provide miscellaneous metal work shown on the drawings (if provided), as specified herein and as needed for a complete, proper and professional installation.
- B. The term "enclosure" as used in this Specification Section refers to a process that makes lead-based paint (LBP) on various surfaces or items inaccessible and airtight because of coverings made of Metal which, are placed over the LBP surfaces or items and mechanically affixed and/or attached with adhesives.
- C. Related work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, Sections in Division 1 of these Specifications, and Section 02067, "Disposal of Waste Materials."

**1.2 SUBMITTALS**

- A. Comply with the pertinent provisions of Section 01302 "Submittals".
- B. Product data: Within ten (10) calendar days before scheduled installation date, if so requested, the Contractor shall submit to the LSKCK Representative for review:
  - 1. Materials list of items proposed to be provided under this Section;
  - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
  - 3. Shop Drawings in sufficient detail to show fabrication, installation, anchorage and interface of the work of this Section and with the work of adjacent trades;
  - 4. Manufacturer's recommended installation procedures which will become the basis for accepting or rejecting actual installation procedures used on the work;
  - 5. Submit Manufacturer's standard color selection chart and certification of lead-free finish (primer and all finish coats); and,

6. Submit 2 samples, 6" square, of each metal finish required. Prepare samples on metal of the same alloy and gage to be used for the work. Samples will be reviewed for color and texture only. Compliance with all other requirements is the exclusive responsibility of the Contractor.

1.3 The types of Metal enclosure items include, but are not necessarily limited to, the following:

- A. Column covers
- B. Exterior window trim, sill, stools, troughs, and other window parts covers
- C. Exterior lap siding and other siding covers
- D. Gutters and downspouts
- E. Flashing
- F. Filler panels, closures and trims
- G. Door frame covers
- H. Mullion covers
- I. Fascia covers
- J. Soffit and porch ceiling covers
- K. Corner guards

#### 1.4 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained, licensed and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Perform shop and/or field fabrication required in connection with the work of this Section in strict accordance with pertinent recommendations of the Metal and Air Conditioning Contractors National Association (SMACNA).
- C. Perform Metal work in cooperation with other trades. Verify size, location and placement of miscellaneous Metal work prior to fabrication. Coordinate field measurements and shop drawings with fabrication and shop assembly.
- D. Preassemble items in the shop to the greatest extent possible, so as to minimize field splicing and assembly of units at the project site. Disassemble units only to the extent necessary for chipping and handling limitations. Clearly mark units for reassembly and coordinated installation.
- E. Furnish inserts and anchoring devices which must be set in concrete or built into masonry for the installation of miscellaneous Metal work. Coordinate delivery with other work to avoid, delay.

## 2- PRODUCTS

### 2.1 MATERIALS

- A. Provide materials which have been selected for their surface flatness, smoothness and freedom from surface blemishes wherever exposed to view. Exposed-to-view surfaces which exhibit pitting, seam marks, roller marks, "oil canning", stains, discolorations, or other imperfections on the finished units will not be acceptable.
- B. Comply with the latest issue of the standards listed. Comply with section and specification requirements of standard as is pertinent in installation.

Siding Material: ASTM B 209, Alloy 3105, Temper H-14,.024 thickness minimum.

Aluminum Sheet: ASTM B 209, Alloy 3105, Temper H-14, with temper and thickness as required for forming (or specific use), or as otherwise recommended by the metal producer to provide the required finish and installation. Fascia fabrications shall be .022 or thicker; soffits and other miscellaneous trim members shall be .017 or thicker.

### 2.2 FASTENERS

- A. Provide fasteners of same metal as covering metal or other noncorrosive metal as recommended by manufacturer. Finish of heads or other exposed parts of fasteners shall match material being fastened.
- B. Fastener shall be Phillips flat head machine screws for exposed fasteners unless otherwise approved from manufacturer's standard installation and fastening information.
- C. Provide straps, plates and brackets as required for support and anchorage of the fabricated items to adjacent surfaces.
- D. Provide metal accessories including metal clips, straps, anchoring devices and similar accessory units as required for installation of work, matching or compatible with the material being installed, noncorrosive, and of the size and gauge required for performance.

### 2.3 FACTORY PAINT

- A. Metal primer paint. For aluminum, provide Zinc Chromate B (FS TT-P-645 or TT-P-666). All primer shall be non-lead containing or shall have no more than the industry standard for lead in paint and in no case more than .06 percent lead. Amounts of lead or lead paint shall be verified in a signed statement by manufacturer prior to any installation of any painted items.

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## **LEAD ABATEMENT SPECIFICATION**

- B. Clean aluminum surfaces to be shop primed with inhibited chemicals, follow by an acidchromate fluoride-phosphate conversion coating treatment or use manufacturer's standard process, as approved by the Project Lead-Safe 2000 Representative.
- C. Factory-applied baked enamel finish. Alkyd enamel FS TT E-489, Class B or manufacturer approved standard finish. All paint shall be certified to be lead-free by the manufacturer or below .06 percent lead as a maximum content.
- D. Bituminous Paint SSPC Paint 12 (cold applied asphalt mastic) or similar treatment shall be applied where dissimilar metals come in contact.

### **2.4 ADHESIVES**

Adhesives for bonding metal coverings to the existing surfaces shall be a permanently flexible type such as "Pheno-Seal" or as recommended by the manufacturer of the siding materials or as approved by the Project Lead-Safe KCK Representative. The adhesive shall be spread evenly and completely on the surface to have a metal closure or metal covering installed. Adhesive shall be applied as necessary to securely attach the covering.

### **2.5 CAULKING**

Caulking as recommended by the covering material manufacturer and approved by the Project Lead Safe KCK Representative shall be installed to seal at edges, joints and connections in the coverings. Caulking shall be installed in a manner to make the coverings "airtight" on the existing surfaces on which they are installed.

### **2.6 FABRICATION**

- A. Fabricate items from the material, gages and finishes shown or specified. If not shown, fabricate from minimum 20 gauge sheets. Provide heavier metal gages, stiffeners, or metal backing, if necessary, to prevent "oil canning" or to provide sufficient strength to the fabricated items and as required for the installation.
- B. Form items in maximum lengths and keep joints to a minimum. Do not expose cut edges of Metal except as shown. Fold back exposed ends of unsupported Metal to form a 1/2" wide hem on the concealed side, or ease exposed edges with backing to a radius of approximately 1/32" or otherwise treat cut edges to prevent a sharp edge and present a good appearance. Form items with flat, flush surfaces, true to line and level.

- C. Fabricate with accurate angles and surfaces which are true to required lines and levels. Form exposed connections with hairline joints using concealed fasteners whenever possible.
- D. Provide gaskets of closed-cell sponge neoprene or mastic sealing tape as required for airtight installation. All gaskets shall provide a continuous seal at abutting surfaces and shall be concealed from view.
- E. Protect metal from corrosion or galvanic action by application of heavy coats of bituminous paint on surfaces which will be in contact with concrete, masonry or dissimilar metals.

### **PART 3 - EXECUTION**

#### **3.1 EXISTING SURFACE CONDITIONING**

- A. Contractor shall examine all areas and conditions under which the work of this section will be performed. Contractor must correct all conditions detrimental to a timely, proper and safe completion of the work. Contractor shall not proceed with any work until unsatisfactory or unsafe conditions are corrected.
- B. Contractor shall particularly observe all lead-based paint surfaces to determine that the surfaces are in good condition. Any surface to be worked on which contains peeling leadbased paint or has extensive dust or debris on it or any other type of damage shall not be worked on until corrected.

Unless indicated otherwise in writing by the Project Lead-Safe KCK Representative to the Contractor, the Contractor shall include in his bid all labor and materials as necessary to clean up or stabilize the lead-based paint surfaces (on which his work will be installed) in accordance with all requirements of this Specification.

#### **3.2 CORRECTION OF EXISTING LEAD-BASED PAINT CONDITIONS**

- A. Contractor shall correct to make safe all existing lead-based paint (LBP) where his work is to be installed. Safe corrections or stabilization of existing LBP shall comply with all sections of this Specification as applicable.
- B. Contractor shall correct or remove lead-based paint or make provisions for working on lead contaminated soil or other surfaces near and at his work site.
- C. Prior to starting any work on the lead-based painted surfaces, Contractor shall as a minimum complete the following:



1. All paint surfaces that have peeling or flaking paint shall be scraped with wet methods to remove all peeling or flaking paint. Lead removing agents may be added to water to facilitate scraping. Damaged areas 3"x 3" and larger shall be repaired prior to starting work. No scraping work shall be completed until the containment is operable and all worker protection as required by specifications is in-place and is being properly used.
- D. Warning labels stating "CAUTION, SURFACE CONTAINS LEAD-BASED PAINT" shall be permanently affixed to all surfaces prior to being enclosed. Labels shall be of a highly visible color and shall be a minimum of 3 "x 5" and placed every 4 square feet in all directions across the substrate being enclosed.
- E. Prior to working on existing ground or other adjacent surfaces to the Contractor's working area, the Contractor shall cover the ground with clean 6-mil. polyethylene to at least ten (10) feet from the work surface. Polyethylene shall not be reused from work location to work location; new material must be installed at each location.

### 3.3 COORDINATION

- A. Coordinate as required with all other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.

### 3.4 INSTALLATION

- A. General:

1. Except as otherwise indicated or specified, comply with manufacturer's installation instructions and recommendations and with SMAGNA "Architectural Metal Manual" where applicable. Conceal all fasteners as practical. Install work with lap joints and seams which will form an airtight enclosure. The flanges of new materials which abut a wall must be made long enough to scribe and fit snug and trim to the wall. Any irregularities, bulges or voids in metal must be blocked or compressed such that enclosure is fully supported and dimple resistant.
2. Set work accurately into position, plumb, level, tight, true and free from rack.
3. Anchor firmly into position. Provide for thermal expansion as necessary.
4. Provide concealed gaskets, flashing, caulking, fillers and insulations, and install as the work progresses to make the installations weather-tight or sealed airtight.

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**LEAD ABATEMENT SPECIFICATION**

**3.5 CLEAN-UP**

- A Contractor shall clean all installed finished surfaces free of all spots, marks, dirt or smudges.
- B Contractor shall touch-up paint any scratch or minor finish damaged areas.
- C Contractor shall remove all debris, materials, tools, and equipment from the site at the completion of the project and prior to the final pay request being approved.

**3.6 WARRANTY**

All aluminum or other siding or coverings, workmanship and materials shall be guaranteed by the Contractor to be free of defects, failures and flaws for a period of one year from the date of substantial completion. All defective material or workmanship shall be repaired free of charge to the Project Lead-Safe KCK and/or the Owner, and shall be painted and otherwise trimmed and finished to match the existing construction, in a professional and workmanlike manner.

**END OF SECTION**

## **Division 6**

### **Wood and Plastics**

**SECTION 06106 - PLYWOOD ENCLOSURES**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Provide plywood as shown on the drawings (if provided), as shown on Attachment A, as specified herein, and as needed for a complete, proper and professional installation.
- B. The term "Enclosure" as used in this Specification Section refers to a process that makes lead-based paint (LBP) on various surfaces or items inaccessible and airtight. Plywood is placed over the LBP surfaces or items or on fu ring strips which are placed over LBP surfaces and mechanically affixed and attached with adhesives.
- C. Related work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, all Sections in Division 1 of these Specifications, Section 02067, "Disposal of Waste Materials" and Section 09953, "Physical Removal of Lead-Based Paint."

**1.2 SUBMITTALS**

- A. Comply with the pertinent provisions of Section 01302 "Submittals".
- B. Product data: If so requested by LSKCK Representative and within submittal schedule period, the Contractor/Installer of plywood shall submit:
  - 1. Materials list of items proposed to be provided under this Section;
  - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
  - 3. Shop Drawings in sufficient detail to show fabrication, installation, anchorage and interface of the work of this Section and with the work of adjacent trades;
  - 4. Manufacturer's recommended installation procedures which will become the basis for accepting or rejecting actual installation procedures used on the work.
  - 5. Submit Manufacturer's standard selection chart and certification of lead-free finish.

6. Compliance with all other requirements of this specification is the exclusive responsibility of the Contractor.
7. Flame spread and fire rating certification indicating the plywood meets the requirements of Kansas City, Kansas building codes for the application intended.

### 1.3 DESCRIPTION OF WORK

- A. The extent of each type of plywood enclosure is shown on Attachment A
  1. The locations to receive plywood enclosures are shown on Attachment A:
- B. The types of plywood required under this section include, but are not limited to, the following:
  1. A/C Grade, CDX Western Red Cedar. 1.4

### QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained, licensed and experienced in the necessary crafts and skills who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Perform plywood installation in cooperation with other trades. Accurately locate all electrical boxes and other types of cutouts required in plywood panels.
- C. Furnish all inserts, anchoring devices and fasteners required for installation. Coordinate delivery with other work to avoid delay.

### 1.5 DELIVERY, STORAGE AND HANDLING

- A. Store all materials in an enclosed, dry, heated, secured storage area. "Block-up" plywood plywood panels off of the floor to allow air to circulate.
- B. Plywood plywood panels shall be delivered to the site with a protective poly film, which shall remain in place until the entire installation is complete.

## 2 - PRODUCTS

### 2.1 MATERIALS

- A. Glue: Except where indicated to be "waterproof," glue joints and laminate veneers with "water-resistant" glue.
- B. Plywood Enclosures: Provide random-matched veneered plywood, Premium Grade (veneer), with manufacturer's standard factory finish. Provide 4'-0" wide plywood panels of length required for work. Species of wood shall be appropriate for the existing conditions, unless specifically indicated types are specified.
  - 1. Plywood shall be as manufactured by (provided product meets all requirements of specifications):
    - a. Georgia Pacific
    - b. Townsend
    - c. Boise Molding and Lumber
    - d. Weyerhaeuser
- C. Fire Retardant Treatment: Provide fire-retardant treatment as required by Kansas City, Missouri building codes.

### 2.2 FASTENERS

- A. Provide non-corrosive ring nails.
- B. Provide metal accessories including anchoring devices, touch-up paint and other accessories as required for professionally finished installation of work.

### 2.3 ADHESIVES/GLUE AND CAULKING

- A. Provide adhesive, glue and caulking as recommended by plywood panel manufacturer. 2.4

### FURRING MATERIALS

- A. 1 "x 2" wood furring materials (fire rated as required) or 3/4" metal hat channels as applicable.

### 3 - EXECUTION

#### 3.1 EXISTING SURFACE CONDITIONING

- A. Contractor shall examine all areas and conditions under which the work of this section will be performed. Contractor must correct all conditions detrimental to a timely, proper and safe completion of the work. Contractor must stabilize severely damaged lead-based paint (LBP). Contractor shall not proceed with any work until unsatisfactory or unsafe conditions are corrected.
- B. Contractor shall particularly observe all lead-based paint surfaces to determine that the surfaces are in good condition. Any surface to be worked on which contains peeling leadbased paint or has extensive dust or debris on it or any other type of damage shall not be worked on until corrected. Contractor shall verify with the LSKCK Representative whether the clean up and/or abatement of the LBP will be performed by others prior to his work.

Unless indicated otherwise in writing by the LSKCK Representative to the Contractor, the Contractor shall include in his bid all labor and materials as necessary to clean up or stabilize the lead-based paint surfaces (on which his work will be installed) in accordance with all requirements of this specification.

#### 3.2 CORRECTION OF EXISTING LEAD-BASED PAINT CONDITIONS

- A. Contractor shall correct to make safe all existing lead-based paint (LBP) where his work is to be installed. Safe corrections or stabilization of existing LBP shall comply with all Sections of this specification as applicable.
- B. Contractor shall correct or remove lead-based paint or make provisions for working on lead contaminated soil or other surfaces near and at his work site.
- C. Prior to starting any work on the lead-based painted surfaces, Contractor shall as a minimum complete the following:
  - 1. All paint surfaces that have peeling or flaking paint shall be scraped with wet methods to remove all peeling or flaking paint. Lead removing agents may be added to water to facilitate scraping. Areas 3"x 3" and larger shall be repaired prior to starting work. No scraping work shall be completed until the containment is operable and all worker protection as required by specifications is being used.

- D. Warning labels stating "CAUTION, SURFACE CONTAINS LEAD-BASED PAINT" shall be affixed to all surfaces prior to being enclosed. Labels shall be of a highly visible color and shall be a minimum of 3"x 5" and placed every 4 square feet in all directions across the substrate being enclosed.

### 3.3 COORDINATION

- A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.

### 3.4 INSTALLATION A.

#### GENERAL

1. Nail plywood to supports in accordance with manufacturer's instructions, using ring shank nails. Arrange and cut plywood panels as required so edges (and grooves, if any) fall over supports. Nail along supports at 8" o.c. or as recommended by plywood panel manufacturer.
2. Use 1 "x 2" wood furring strips or 3/4" metal hat channels as is applicable for installation and building code requirements.
  - a. Plywood panels shall be glued directly to surfaces unless surfaces are uneven.
  - b. Use furring material as necessary to make a level and true professional installation.
3. Glue and adhere plywood panels as required by these Specifications or as recommended by the manufacturer.
4. Set work accurately into position, plumb, level, tight, and true. Cut all required openings in paneling accurately. Cut plywood panels to meet tightly with one another and with existing trim and other materials with which it must abut.
5. Repair minor damage of finish. Replace plywood panels with severe finish damage as directed by LSKCK Representative.

### 3.5 CLEAN-UP

- A Contractor shall clean all installed finished surfaces free of all spots, marks, dirt or smudges.



- B. Contractor shall touch-up paint any scratched or otherwise damaged finish areas.
- C. Contractor shall remove all debris, materials, tools, and equipment from the site at the completion of the project and prior to the final pay request being approved.
- D. Contractor shall remove protective film completely from plywood paneling and clean as necessary, prior to installation.

**END OF SECTION**

**SECTION 06107 - VINYL ENCLOSURE**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. Provide vinyl siding, jamb liners, enclosures and/or coverings for those areas shown on Attachment A, as specified herein, and as needed for a complete, proper and professional installation.
- B. Related Work
  - 1. Documents affecting work of this Section include, but are not limited to, General Conditions, and other pertinent sections of these specifications.

**1.2 QUALITY ASSURANCE**

- A. The Contractor shall use an adequate number of skilled, licensed and experienced workmen who are thoroughly trained and experienced in the installation of vinyl siding and building components, and other necessary crafts and who are completely familiar with the requirements and methods needed for proper performance of the work of this Section. The Project Lead-Safe KCK's Representative may recommend to the Project Lead-Safe KCK that the Contractor remove from the project site any workers who, in the Project Lead-Safe KCK's opinion does not possess the necessary skills to complete the work as specified.
- B. The Contractor shall comply with all applicable federal, state, and local laws, codes, and regulations.

**1.3 SUBMITTALS**

- A. Provide submittals in accordance with Section 01302 - "Submittals".
- B. Product data: If so requested by the LSKCK Representative, the Contractor shall submit to the Project Lead-Safe KCK's Representative the following information:
  - 1. Materials list of items proposed to be provided under this Section;
  - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;

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3. Samples of the full range of colors and patterns available from the proposed manufacturer in the specified range and indication of matching fasteners and accessories; and,
4. Manufacturer's recommended installation procedures indicating fasteners to be used and conformance with local building codes and manufacturer's required fastening (nails, screws, glue, etc.) requirements which, when approved by the Project Lead-Safe KCK, will become the basis for accepting or rejecting actual installation procedures used on the work.

### **C. Mock-ups:**

1. If so requested by the LSKCK Representative and at an area of the site approved by the Project Lead-Safe KCK, provide a mock-up panel of work of this Section.
  - a. Make the mock-up panel approximately four feet high by three feet wide;
  - b. Provide one mock-up panel for each color and pattern of vinyl exterior covering used on the work;
  - c. The mock-ups may be part of the work, and may be incorporated into the finished work, when so approved by the Project Lead-Safe KCK; and,
  - d. Revise as necessary to secure the Project Lead-Safe KCK's approval.
2. The mock-up panels will be used as datum points for comparison with the remainder of the work of this Section for the purpose of acceptance or rejection.
3. If the mock-up panels are not permitted to be part of the finished work, completely demolish and remove them from the job site upon completion and acceptance of work of this Section.

### **1.4 DELIVERY, STORAGE, AND HANDLING**

#### **A. Delivery**

Materials shall be delivered only during normal working hours of 8:00 a.m. to 4:30 p.m. Monday through Friday. Deliveries shall be scheduled to minimize space and time requirements for storage of materials and equipment on the site.

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### **B. Storage**

Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Materials shall be stored in an area of the project site acceptable to the Project Lead-Safe KCK; however, this shall be done at sole risk to the Contractor. Materials shall be stored out of the way of traffic and stacked up off the ground surface for air circulation.

### **C. Handling**

Deliver to the Owner for use in future modifications, an extra stock of approximately 10% of each color and pattern of material used in work of this Section, packaging each type of material separately, distinctly marked and adequately protected against deterioration. Provide an adequate number of additional required fasteners in addition to the basic material.

## **PART 2 - PRODUCTS**

### **2.1 VINYL EXTERIOR SIDING, WINDOW JAMB LINERS AND/OR COVERINGS**

- A. Where indicated on the Drawings (if used) and/or specified in these documents, provide the products in the colors approved by the Project Lead-Safe KCK from the manufacturer's standard colors. Vents in the soffit coverings shall be provided as required by the drawings (if used) and required to match the existing construction. Vents shall have insect and bird screen installed on them.
- B. Exterior Vinyl siding and/or coverings shall be solid vinyl (minimum thickness 0.040" for siding, 0.038" for soffits), extruded polyvinyl chloride (PVC) compound as defined in ASTM D3679-81 a, "Standard Specification for PVC Siding", with all associated fasteners as required by the manufacturer and local building codes.
- C. Window Jamb Liners shall be installed over existing window side jambs, after physical removal of existing parting beads/channel guides. Remove paint from upper and lower window sash stiles prior to re-installation. Removal of existing parting beads/channel guides shall be accomplished in accordance with Section 02065, and removal of paint from window stiles shall be accomplished in accordance with Section 09953.
- D. Manufacturers
  - 1. Manufacturers offering products which comply with the requirements for vinyl exterior siding and/or coverings shall be, but not limited to the following:

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- a. Alcoa Corporation;
- b. Certanteed Corporation;
- c. Quaker City Manufacturing; and,
- d. Multiblends, Inc.

Other products to be provided must be equal in quality and warranty. All "equal" products must be submitted for approval to the Project Lead-Safe KCK's Representative at least ten (10) days prior to bids being taken. Written approval of submitted alternatives will be given to all plan holders of record.

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E. Certification of Conformance

1. All vinyl covering products shall meet or exceed the following specifications and/or code approvals:
  - a. ASTM 3679-81a, PVC Siding Specification;
  - b. ASTM E-84, Test Methods for Surface Burning Characteristics of Building Materials;
  - c. ASTM D-635, Test Methods for Rate of Burning and/or Extent and Time of Burning of Self-Supporting Plastics in a Horizontal Position;
  - d. ASTM D02843, Test Methods for Density of Smoke from Burning or Decomposition of Plastics;
  - e. Building Officials and Code Administration International, Inc. (BOCA) Research Report No. 86-36;
  - f. International Conference of Building Officials (ICBO) Report No. 3985; and,
  - g. State of Connecticut Board of Materials Review, File No. BMR 008-82.

2.2 OTHER MATERIALS

- A. Provide other materials, fasteners and accessories not specifically described but required for a complete and proper installation as required by the manufacturer and local building codes, as selected by the Contractor subject to the approval of the Project Lead-Safe KCK. All accessories used with vinyl exterior siding and/or coverings shall be the same quality vinyl and produced by the same company as the other vinyl products being used.

PART 3 - EXECUTION 3.1

INSPECTION

- A. Contractor must examine areas and conditions under which vinyl exterior covering is to be applied and notify the Project Lead-Safe KCK's Representative in writing of conditions detrimental to proper and timely completion of the work. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to vinyl covering installer for proper installation and manufacturer's warranty coverage.
- B. Make moisture content tests of substrate by use of an electronic moisture meter approved by the Project Lead-Safe KCK; and verify that substrate moisture content of wood does not exceed 7% average, with a range permitted in individual pieces from 5% to 15%.

### 3.2 PREPARATION A.

#### Wood

1. Make the surface completely smooth; set nail heads and fill with waterproof filler, sanding smooth with the adjacent surfaces; verify proper moisture content.
2. Seal knots, pitch, and sap streaks with one coat of 2 lb. cut white shellac or similar approved sealer, covering the entire surface.

### 3.3 INSTALLATION OF VINYL EXTERIOR COVERING

- A. Prior to starting work, quantify and verify governing dimensions at building. Examine, clean, and repair if necessary, any adjoining work on which this work in any way is dependent for its proper installation.
- B. Sequence:
  1. Use vinyl in consecutive numbered sequence of their manufacture (if any).
- C. Handle the vinyl exterior covering in strict accordance with the manufacturer's recommendations, and all local building codes.
  1. Follow the manufacturer's printed instructions for installation as well as all local building codes that would apply.
  2. The field application of any and all vinyl soffits, fascia, porch ceilings, and gable ends or any other surface to be Enclosed with Vinyl shall be in accordance with the best practice, with all joint members true and plumb.
  3. All vinyl will be provided with elongated nailing slots on the nailing flange where applicable. Ends of horizontal panels will be factory notched so as to form an overlapping joint.

### 3.4 CLEANING

- A. Upon completion, newly installed vinyl siding or other coverings shall be cleaned with a damp cloth to remove any surface dirt or fingerprints.
- B. Inspect all seams, verifying that precise match has been achieved, and correcting mismatch of color

and/or pattern as necessary to secure the Project Lead-Safe KCK's approval.

- C. Verify that installed vinyl exterior covering meets or exceeds the quality of installation achieved in the approved mock-up panels.
- D. The Contractor shall conduct a magnetic "nail drag" at the end of the project in all work areas. The magnetic nail drag shall be repeated as necessary until all loose nails and fasteners and other metal construction objects have been picked up to the satisfaction of the Project Lead-Safe KCK. If nails or fasteners are aluminum or some other material that will not be picked up by a magnet, a physical search and raking of all work areas shall be conducted to pick up all loose nails and fasteners.

### 3.5 WARRANTY

All vinyl exterior covering workmanship and materials shall be guaranteed by the Contractor to be free of defects, failures, and flaws for a period of one year from the date of substantial completion. All defective material or workmanship shall be repaired free of charge to the Project Lead-Safe KCK and the Owner, and shall be painted and otherwise trimmed and finished to match the existing construction, in a professional and workmanlike manner.

**END OF SECTION**



**SECTION 06402 - CARPENTRY AND TRIM WORK**

**PART 1 - GENERAL 1.1**

**DESCRIPTION**

**A. General**

Provide wood, nails, screws, bolts, and other items as needed, and perform rough and finish carpentry for the construction as specified in this Section and as indicated on the drawings (if provided), and as needed for a complete and proper installation. Carpentry includes all rough and finish carpentry work.

1. Provide Carpentry and/or trim replacement materials or covers over the items indicated on ATTACHMENT A. The action (i.e., Replacement, Enclosure, etc.) is listed next to the item or area Shown on Attachment A.
2. Unless noted otherwise, the item or area to have work shall receive the same type of construction as the original construction (in the case of replacement) and if being covered, shall be covered with the following:
  - a. 3/4" solid wood stock over the existing solid wood stock.
  - b. 3/8" plywood (meeting all requirements of specifications) over other plywood areas.

**B. Related Documents**

1. Documents which apply to this work are; but are not necessarily limited to drawings (if provided) and general provisions of the Contract, including General and Supplementary Conditions, and sections as applicable from Division 1.

## 1.2 QUALITY ASSURANCE

- A. The Contractor shall use an adequate number of skilled and licensed workmen who are thoroughly trained and experienced in the carpentry crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section. The Project Lead-Safe KCK's Representative may recommend that the Contractor remove from the project site any worker who does not possess (in the Project Lead-Safe KCK's opinion) the necessary skills to complete carpentry as specified.
- B. Codes and Standards
  1. The Contractor shall comply with applicable federal, state, and local laws, codes, and regulations.
  2. The Contractor shall also comply with the following:
    - a. Western Wood Products Association (WWPA) Product Use Manual for the selection and use of products; and,
    - b. American Plywood Association (APA) Plywood Specification and Grade Guide.

## 1.2 DELIVERY, STORAGE, AND HANDLING

### A. Delivery

Materials shall be delivered only during normal working hours, 8:00 a.m. to 4:30 P.M., Monday through Friday, or as otherwise approved in writing by the Project Lead-Safe KCK. Deliveries shall be scheduled to minimize space and time requirements for storage of materials and equipment on the site.

### B. Storage

Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber, as well as plywood and other panels; provide for air circulation within and around stacks and under temporary coverings, including polyethylene sheeting or similar material. Materials shall be stored in an area of the project site acceptable to the Project Lead-Safe KCK; however, this shall be done at sole risk to the Contractor. Materials shall be stored out of the way of traffic, and stacked up off the ground surface to allow air circulation.

### C. Handling

Use extreme care when unloading lumber to prevent damage, splitting, and breaking of materials.

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### **1.3 PROJECT/SITE CONDITIONS**

- A. The project site shall be occupied by adjacent residents during the construction. Work shall be performed so as not to interfere with adjacent resident's operations.
- B. The Contractor shall confine operations at the site to the areas permitted by the Project Lead-Safe KCK, and the Contract. Areas of the site beyond which work is scheduled are not to be disturbed.
- C. The Contractor shall keep all streets and entrances serving the premises clear and available to the Project Lead-Safe KCK representatives, residents, and the general public during the project.

### **1.5 SEQUENCING/SCHEDULING**

- A. The Contractor shall schedule his/her work with that of all other trades working on this project.

## **PART 2 - PRODUCTS 2.1**

### **MATERIALS**

- A. Provide materials in the quantities needed for completion of the work and meeting or exceeding the following standards of quality:
  - 1. Plywood: All plywood shall be a minimum of 5-ply plywood with exterior glue.
    - a. PORCH FLOORS: Paintable, Smooth, A-C grade, Exposure 1 (APA Rating), 1/2" thick, western red cedar. Texture and style shall match existing conditions which are to be enclosed or which were removed.
    - b. GABLES, SOFFITS, and PORCH CEILINGS: Paintable, Smooth, A-C grade, Exposure 1 (APA Rating), 3/8" thick if joists are on 16" centers and 1/2" thick if joists are on 24" centers, western red cedar.
    - c. Finish side shall be mounted out (no knots or blemishes shall be exposed).
  - 2. Siding (APA Rating) to match existing siding as approved by the Project Lead-Safe KCK Representative:

## **PROJECT LEAD-SAFE 2000, LEAD ABATEMENT SPECIFICATION**

3. Fascia board: (Size as required to match existing replaced or to cover existing) boards, western red cedar to match existing size fascia board which was removed or which is to be enclosed.
4. Metal drip edge: Minimum 24-gauge galvanized steel, brake-formed to provide 3" roof deck flanges, and 1-1/2" fascia flange with 3/8" drip at lower edge; shall match existing.
5. Metal flashing: Zinc-coated steel, ASTM A-526 and ASTM A-527, G90 hot dip galvanized; 24-gauge except as otherwise noted. Job-cut to sizes and profiles as necessary.
6. Miscellaneous Materials
  - a. Fasteners and Anchorages: Provide size, type, material, and finish as indicated and as required by applicable standards, complying with applicable Federal Specifications for nails, staples, screws, bolts, nuts, washers, and anchoring devices. Provide metal hangers and framing anchors of the size and type recommended by the manufacturer for each use including recommended nails.
    - 1) Where carpentry work is exposed to weather, in ground contact, or in an area of high relative humidity, provide fasteners and anchorages with a hot-dip zinc (galvanized) coating (ASTM A 153).
  - b. Other materials: Provide other materials (such as bird and insect screen), not specifically described but required for a complete and proper installation, as selected by the Contractor subject to approval of the Project Lead-Safe KCK's Representative.

### **PART 3 - EXECUTION 3.1**

#### **INSPECTION**

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

## **PROJECT LEAD-SAFE 2000, LEAD ABATEMENT SPECIFICATION**

- B. Discard units of material with defects which might impair quality of work, and units which are too small to use in fabricating work with minimum joints or optimum joint arrangement.
- C. Do not permit materials not complying with the provisions of this section to be brought onto or to be stored at the job site.
  - 1. Promptly remove non-complying materials from the job-site and replace with materials meeting the requirements of this section.
- D. Lumber may be rejected by the Project Lead-Safe KCK or their Representative, whether or not it has been installed, for excessive warp, twist, surface imperfections, bow, crook, mildew, fungus, or mold, as well as for improper cutting and fitting.

### **3.2 PREPARATION**

- A. Set carpentry work to required levels and lines, with members plumb and true to line, and cut and fitted squarely and tightly.

### **3.3 INSTALLATION**

- A. Carefully select lumber pieces for installation.
  - 1. Select individual pieces so that knots and obvious defects will not interfere with placing of bolts or proper nailing, and will allow for making of proper connections.
  - 2. Cut out and discard defects which render a piece unsuitable to serve its intended function.
- B. Installation of plywood sheeting
  - 1. Placement:
    - a. Place plywood with face grain perpendicular to supports and continuously over at least two supports, except where otherwise noted on the drawings (if used).

## **PROJECT LEAD-SAFE 2000, LEAD ABATEMENT SPECIFICATION**

- b. Center joints accurately over supports and fasten securely, unless otherwise shown on the drawings (if used).
- 2. Plywood shall be painted as soon as installation of an area is complete to protect from water or moisture damage. Protect on a temporary basis as necessary with waterproof covering to prevent damage.
- 3. Install new aluminum pre-finished (factory painted) soffit vents. Color shall be white or color to match soffit tint. Vents shall have insect and bird screen installed on them.

### **C. Jointing**

- 1. Install all joints true, straight, tight, and square. Joints shall be nailed with all members assembled in accordance with the Drawings (if used), and with applicable codes and regulations.
  - a. Make joints to conceal shrinkage; miter exterior joints; miter or scarf end-to-end joints; and,
  - b. Place joints only where solid support is available.

### **D. Fastening**

- 1. Install items straight, true, level, plumb, and firmly anchored in place;
- 2. Nail trim with finish nails of proper dimension to hold the member firmly in place without splitting the wood;
- 3. Nail exterior trim with galvanized nails, making joints to exclude water;
- 4. Screw, do not drive, wood screws. Screws may be started by driving and then screwed home; and,
- 5. Repair/replace existing or install new gutters, downspouts, roof flashing, and metal drip edges as required by specifications or as necessary. All new gutters or downspouts shall match existing.

## **3.4 FIELD QUALITY CONTROL**

## **PROJECT LEAD-SAFE 2000, LEAD ABATEMENT SPECIFICATION**

- A. The Project Lead-Safe KCK's Representative shall inspect the newly enclosed and replaced and associated hardware to assure compliance with the specifications.
  - 1. The Contractor shall notify the Project Lead-Safe KCK's Representative within 24 hours of the completion of installation for each item for each building that is ready for inspection.
  - 2. Each inspection must be requested by the Contractor to be performed by the Project Lead-Safe KCK's Representative to the Representative's satisfaction before the next phase of work may begin. Failure of the Contractor to obtain the Project Lead-Safe KCK's Representative's approval before proceeding to the next phase (painting) may result in all work stopping until the Contractor replaces the non complying work with new complying construction. No increase in contract amount or time will be allowed.

### **3.5 CLEANING**

- A. The Contractor shall keep the premises in a neat, safe, and orderly condition at all times during execution of this portion of the work.
- B. The project site shall be kept free from accumulations of sawdust, cut-ends, debris, and other construction-related materials.
- C. At the end of each work day, and as often as necessary, the Contractor shall thoroughly and properly clean all surfaces where refuse from this portion of the work has settled.
  - 1. Remove the refuse to the appropriate disposal container.
  - 2. Upon completion of this portion of the work, thoroughly and properly clean all work surfaces.
- D. The Contractor shall conduct a magnetic "nail drag" at the end of the project in all work areas. The magnetic nail drag shall be repeated as necessary until all loose nails or fasteners and other metal construction objects have been picked up to the satisfaction of the Project Lead-Safe KCK or his representative. If nails or fasteners are aluminum or some other material that will not be picked up by a magnet, then a physical search and raking of all work areas shall be conducted to pick-up all loose nails and fasteners.

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**3.6 WARRANTY**

All carpentry workmanship and materials shall be guaranteed by the Contractor to be free of defects, failures, and flaws for a period of one year from the date of substantial completion. All defective material or workmanship shall be repaired free of charge to the Project Lead-Safe KCK and/or Owner and shall be painted, and otherwise trimmed and finished to match the existing construction.

**END OF SECTION**



## **Division 9**

### **Finishes**

**SECTION 09252 - GYPSUM WALLBOARD ENCLOSURE**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Provide gypsum drywall and accessories as specified herein, as shown on Attachment A and as needed for a complete, proper and professional installation.
- B. The term "Enclosure" as used in this Specification Section refers to a process that makes lead-based paint (LBP) on various surfaces or items inaccessible and airtight because of coverings made of Gypsum Wallboard which are placed over the LBP surfaces or items and mechanically affixed and attached with adhesives.
- C. Related work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and all Sections in Division 1 of these Specifications, Section 02067 "Disposal of Waste Materials" and the drawing (if provided).

**1.2 SUBMITTALS**

- A. Comply with pertinent provisions of Section 01302 "Submittals."
- B. Product data: If so requested by the LSKCK Representative and within the submittal schedule period, the Contractor shall submit:
  - 1. Materials list of items proposed to be provided under this Section;
  - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
  - 3. Manufacturer's recommended installation procedures which, when approved by the Project Lead-Safe KCK (LSKCK) Representative, will become the basis for accepting or rejecting actual installation procedures used on the work.
- C. Mock-ups:
  - 1. If so requested by the LSKCK Representative and in an area on the site where approved by the Project Lead-Safe KCK (LSKCK) Representative, provide a mock gypsum wallboard panel on an existing wall surface.

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- a. Complete one room within the project as selected by the LSKCK Representative to serve as a mock-up of the completed work for approval by the LSKCK Representative.
  - b. Revise as necessary to secure the LSKCK Representative's approval.
2. The mock-up room, when approved by the LSKCK Representative, will be used as datum points for comparison with the remainder of the work of this Section for the purpose of acceptance or rejection.

**1.3 QUALITY ASSURANCE**

- A. Use adequate numbers of skilled workmen who are thoroughly trained, licensed and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

**1.4 DELIVERY, STORAGE AND HANDLING**

- A. Deliver all gypsum and accessories in original package and store in a dry, secure storage area, out of the way of the containment of lead-based paint abatement work going on and the other construction activity.

**1.5 APPLICABLE PUBLICATIONS**

- A. The publications listed below form a part of this Specification to the extent referenced and/or applicable.
- B. American Society for Testing and Materials (ASTM) (or the most current version):
  - C 11-91 ..... Standard Definitions of Terms Relating to Gypsum and Related Building Materials
  - C36-91 ..... Gypsum Wallboard
  - C475-89 ..... Joint Compound and Joint Tape for Finishing Gypsum Board
  - C630-91 ..... Water Resistant Gypsum Backing Board
  - C840-88 ..... Application and Finishing of Gypsum Board

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C954-86.....	Steel Drill Screws for the Application of Gypsum Board or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84mm) to 0.112 in. (2.84mm) in thickness
C1002-88 .....	Steel Drill Screws for the Application of Gypsum Board or Metal Plaster Bases
C1047-85(R 1990) .....	Accessories for Gypsum Wallboard

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## PART 2 - PRODUCTS

### 2.1 GYPSUM WALLBOARD

#### A. General:

1. Provide gypsum wallboard complying with the latest issue of Fed Spec SS-L-30D and ASTM C36, in 48" widths and in such lengths as will result in a minimum of joints.
2. Regular wallboard: 5/8" thick with beveled edges where existing walls are furred out to receive enclosure and 1/4" thick with beveled edges where placed directly on existing wall surface.
3. Fire-retardant wallboard: Provide type III, grade X, class 1, 5/8" thick where indicated by Kansas City, Kansas code.
4. Water-resistant wallboard: Provide type VII, grade W or X as required, class 2, 5/8" thick where existing walls are furred out to receive enclosure and 1/4" thick with beveled edges where placed directly on wall surface. Install water resistant wallboard in toilet rooms, bathrooms, laundry rooms, and other moisture-type areas.
5. All gypsum wallboard shall be non-asbestos containing and shall have a signed certification by the manufacturer indicating that it is asbestos-free.

### 2.2 METAL TRIM

- A. ASTM C1047, except form of 0.015 inch (0.39mm) thick zinc coated steel sheet or rigid PVC plastic complying with ASTM D3678.
- B. Casing beads:
1. Provide channel-shapes with an exposed wing, and with a concealed wing not less than 7/8" wide.
  2. The exposed wing may be covered with paper cemented to the metal but shall be suitable for joint treatment.
- C. Corner beads: Provide angle shapes with wings not less than 7/8" wide and perforated for nailing and joint treatment, or with combination metal and paper wings bonded together, not less than 1-1/4" wide and suitable for joint treatment.
- D. Edge beads for use at perimeter of ceilings:
1. Provide angle shapes with wings not less than 3/4" wide.
  2. Provide concealed wing perforated for nailing, and exposed wing edge folded flat.
  3. Exposed wing may be factory finished in white color.

- E. Furring material: Provide 3/4" hot dip galvanized or factory painted "hat" channels where 5/8" gypsum wallboard is furred out from existing wall surface.
- F. Provide miscellaneous metal studs as may be required for a complete installation. 2.3.

#### ADHESIVES

- A. Provide adhesives as recommended by gypsum wallboard manufacturers and apply gypsum wallboard directly to existing wall surfaces, ceiling and other surfaces as may be indicated and applicable.

#### 2.4 JOINTING SYSTEM

- A. Provide a jointing system, including reinforcing tape and compound, designed as a system to be used together and as recommended for this use by the manufacturer of the gypsum wallboard approved *for* use on this work.
- B. Jointing compound may be used *for* finishing if so recommended by its manufacturer.
- C. All jointing compound shall be non-asbestos containing. 2.5.

#### FASTENING DEVICES

- A. For fastening gypsum wallboard in place on metal studs, hat channel or existing wall surface, use flat-head screws, shouldered, specially designed for use with power driven tools, not less than 1" long with self-tapping threads and self-drilling points.

#### 2.6 ACCESS DOORS

- A. In partitions and ceilings installed under this Section, provide doors where required for access to mechanical installations, plumbing installations and electrical installations where indicated on drawings.
- B. Types:
  - 1. Unless otherwise required, provide 24" x 24" metal access doors with concealed hinges to metal frame and with Allen key lock.
  - 2. For piercing fire-rated surfaces, provide access doors having the same fire rating as the surface being pierced.
  - 3. For other installations, provide prime-coated steel access doors and frames for finish painting to be performed at the job site under Section 09952 of this Specification.

## 2.7 OTHER MATERIALS

- A. Provide other materials not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the LSKCK Representative.

## PART 3 - EXECUTION

### 3.1 EXISTING SURFACE CONDITIONING

- A. Contractor shall examine all surfaces, areas and conditions under which the work of this section will be performed. Contractor must correct all conditions detrimental to a timely, proper and safe completion of the work. Contractor shall not proceed with any work until unsatisfactory or unsafe conditions are corrected.
- B. Contractor shall particularly observe all lead-based paint surfaces to determine that the wall or other surfaces are in good condition. Any surface to be worked on which contains peeling lead-based paint or has extensive dust or debris on it or any other type of damage shall not be worked on until corrected.

Unless indicated otherwise in writing by the LSKCK Representative to the Contractor, the Contractor shall include in his bid all labor and materials as necessary to clean up or stabilize the lead-based paint surfaces (on which his work will be installed) in accordance with all requirements of this specification.

### 3.2 CORRECTION OF EXISTING LEAD-BASED PAINT CONDITIONS

- A. Contractor shall correct to make safe all existing lead-based paint (LBP) where his work is to be installed. Safe corrections or stabilization of existing LBP shall comply with all sections of this Specification as applicable.
- B. Contractor shall correct or remove lead-based paint or make provisions for working on lead contaminated soil or other surfaces near and at his work site.
- C. Prior to starting any work on the lead-based painted surfaces, Contractor shall as a minimum complete the following:
  - 1. All paint surfaces that have peeling or flaking paint shall be scraped with wet methods to remove all peeling or flaking paint. Lead removing agents may be added to water to facilitate scraping. Damaged areas 3"x 3" and larger shall be repaired prior to starting work. No scraping work shall be completed until the containment is operable and all worker protection as required by specifications is being used.
- D. Warning labels stating "CAUTION, SURFACE CONTAINS LEAD-BASED PAINT" shall be affixed to all surfaces prior to being enclosed. Labels shall be of a highly visible color and shall be a minimum of 3 "x 5" and placed every 4 square feet in all directions across the substrate being enclosed.

### 3.3 INSTALLATION

#### A. General:

1. Install the gypsum wallboard in accordance with professionally accepted industry practices and with the separate boards in moderate contact but not forced into place.
2. At internal and external corners, conceal the cut edges of the boards by the overlapping covered edges of the abutting boards.
3. Stagger the boards so that corners of any four boards will not meet at a common point except in vertical corners.

#### B. Ceilings:

1. Install the gypsum wallboard to ceilings with the long dimension of the wallboard at right angles to the supporting members.
2. Wallboard may be installed with the long dimension parallel to supporting members that are spaced 16" on centers when attachment members are provided at end joints.

#### C. Walls:

1. Install the gypsum wallboard to wall furring studs at right angles to the furring members.
2. Make end joints, where required, over framing or furring members.

#### D. Attaching:

1. Drive the specified screws with clutch-controlled power screwdrivers, spacing the screws 12" on centers at ceilings and 16" on centers at walls over existing studs or ceiling framing.

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E. Access doors:

1. By careful coordination, install the specified access doors where required.
2. Anchor firmly into position and align properly to achieve an installation flush with the finished surface.

### 3.3 JOINT TREATMENT

A. General:

1. Inspect areas to be joint treated, verifying that the gypsum wallboard fits snugly against supporting framework or existing wall or ceiling surfaces.

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2. In areas where joint treatment and compound finishing will be performed, maintain a temperature of not less than 55 degrees for 24 hours prior to commencing the treatment and until joint and finishing compounds have dried.
3. Apply the joint treatment and finishing compound by machine or hand tool.
4. Provide a minimum drying time of 24 hours between coats, with additional drying time in poorly ventilated areas.

B. Embedding compounds:

1. Apply to gypsum wallboard joints and fastener heads in a thin uniform layer.
2. Spread the compound not less than 3" wide at joints, center the reinforcing tape in the joint, and embed the tape in the compound. Then spread a thin layer of compound over the tape.
3. After this treatment has dried, apply a second coat of embedding compound to joints and fastener heads, spreading in a thin uniform coat to not less than 6" wide at joints and feather edged.
4. Sandpaper between coats as required.
5. When thoroughly dry, sandpaper/feather to eliminate ridges and high points.

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C. Finishing compounds:

1. After embedding compound is thoroughly dry and has been completely sanded, apply a coat of finishing compound to joints and fastener heads.
2. Feather the finishing compound to not less than 12" wide.
3. When thoroughly dry, sandpaper/feather to obtain a uniformly smooth surface, taking care not to scuff the paper surface of the wallboard.

### 3.4 CORNER TREATMENT

A. Internal corners: Treat as specified for joints, except fold the reinforcing tape lengthwise through the middle and fit neatly into the corner.

B. External corners:

1. Install the specified corner bead, fitting neatly over the corner and securing with the same type of fasteners used for installing the wallboard.
2. Space the fasteners approximately 6" on centers and drive through the wallboard into the framing or furring member.
3. After the corner bead has been secured into position, treat the corner with joint compound and reinforcing tape as specified for joints, feathering the joint compound out from 8" to 10" on each side of the corner.

### 3.5 OTHER METAL TRIM A.

General:

1. These specifications do not purport to show all locations and requirements for metal trim.
2. Carefully study the installation and provide all metal trim normally recommended by the manufacturer of the gypsum wallboard approved for use in this work.

### 3.6 CLEANING UP

- A. In addition to other requirements for cleaning, use necessary care to prevent scattering gypsum wallboard scraps and dust and to prevent tracking gypsum and joint finishing compound onto floor surfaces.
- B. At completion of each segment of installation in a room or space, promptly pick up and remove from the working area all scrap, debris and surplus material of this Section.

- C. Leave gypsum wallboard system clean and complete to receive paint as specified in Section 09952, "Painting."

### 3.7 WARRANTY

All gypsum wallboard workmanship and materials shall be guaranteed by the Contractor to be free of defects, failures and flaws for a period of one (1) year from the date of substantial completion. All defective material or workmanship shall be repaired free of charge to the LSKCK and/or Owner, and shall be painted and otherwise trimmed and finished to match the existing construction.

**END OF SECTION**

**SECTION 09802 - ENCAPSULATION**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Provide Encapsulation coating over lead-based paint surfaces as specified herein, as shown on Attachment A, as shown on the drawings (if provided), and as needed for a complete and proper installation.
- B. Encapsulation coatings provide a method of protecting building occupants from exposure to lead. Encapsulation products may be applied over a number of different substrates as recommended by the manufacturer.
- C. All surfaces to receive Encapsulation shall be properly prepared in accordance with the specific requirements of these specifications and the product's manufacturer recommendations.
- D. Provide project decontamination where and to the extent shown on drawings (if provided), as specified herein and in Section 01715 "Project Decontamination" of this Specification and as needed for a complete, safe and proper abatement work process and abatement project work area.
- E. Related work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, all Sections in Division 1 of this Specification, Section 02067, "Disposal of Waste Materials" and as shown on the drawings (if provided).

**1.2 REFERENCES**

- A. Include the requirements of the following references, as applicable, as part of this Specification.
  - 1. ASTM
    - a. E 1795- "Standard Specification for non-reinforced Liquid Coating Encapsulation Products for Lead in Buildings".
    - b. E 1796 - "Standard Guide for Selection and Use of Liquid Coating

Encapsulation Products for Leaded Paint in Buildings".

c. E 1797 - "Standard Specification for Reinforced Liquid Coating  
Encapsulation Products for Leaded Paint in Buildings".

2. The Department of Housing and Urban Development's (HUD) current issue and all addendum, amendments and revisions to the document entitled "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing."
3. The building codes of the City of Kansas City, Kansas.
4. All Licensing, Training and Accreditation regulations and statutes for lead-based paint abatement workers and supervisors, as required through the US EPA and/or KDHE.

### 1.3 SUBMITTALS

- A. Comply with pertinent provisions of Section 01302. B.

#### Product Data

1. Materials list of items proposed to be provided under this Section;
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
3. Manufacturer's recommended application and use procedures of which, when approved by the Project Lead-Safe KCK (LSKCK) Representative, will become the basis for accepting or rejecting actual application and use procedures used on the work.
4. Manufacturer's standard color selection chart.
5. Samples 6"x 6" of encapsulate on similar substrate as is present at the project.
6. One pint size can of encapsulate proposed for use on the project. 1.4

### QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained, licensed and experienced in the necessary skills and crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

**PROJECT LEAD-SAFE KCK LEAD ABATEMENT SPECIFICATION****1.5 DELIVERY, STORAGE AND HANDLING**

- A. All materials shall be delivered to the project site in their original cartons or packing. All materials shall be stored in a safe, secured, dry area. Heat shall be provided for materials and products during cold weather and temperature reduction provided for materials and products during hot temperatures.

**PART 2 - PRODUCTS****2.1 MATERIALS****A. Encapsulants**

1. Encapsulant product shall be long lasting and shall resist cracking, peeling, algae and fungus.
2. Encapsulant product shall be elastic and flexible.
3. Encapsulant product shall be compatible with the surface to which it is applied. It should bond with the top surface substrate layer without causing other layers to lift, peel or become loose.
4. Encapsulant shall meet requirements of all ASTM standards.
5. Encapsulant shall meet all requirements of the Department of Housing and Urban Development's (HUD) current issue and all revisions of the "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing."
6. Encapsulant shall meet the requirements of the City of Kansas City, Kansas building codes, particularly all fire rating requirements and flame spread and smoke development requirements.
7. Encapsulant shall inhibit the transport of lead from substrate to the dried finished surfaces of the encapsulant, such as by leaching when exposed to solubilizing liquids or by any other cause.
8. Encapsulant shall be manufactured by or equal to one of the following as approved by the LSKCK Representative:
  - a. Saf-T-Shield
  - b. Lead Block
  - c. Kapsulkote
  - d. Encapsulastic
  - e. Lead Seal
  - f. or other approved equal

- B. Spray applicators, brushes, rollers and all accessory equipment as recommended by the manufacturer for application of encapsulant.

### PART 3 - EXECUTION

#### 3.1 EXISTING SURFACE CONDITIONING

- A. Contractor shall examine all areas and conditions under which the work of this section will be performed. Contractor must correct all conditions detrimental to a timely, proper and safe completion of the work. Contractor shall not proceed with any work until unsatisfactory or unsafe conditions are corrected.
- B. Contractor shall particularly observe all lead-based paint surfaces to determine that the surfaces are in good condition. Any surface to be worked on which contains peeling leadbased paint or has extensive dust or debris on it or any other type of damage shall not be worked on until corrected. No application of encapsulants shall be made until all surfaces are corrected. Contractor shall verify with the LSKCK Representative whether the clean up and/or abatement of the LBP will be performed by others prior to his work.

Unless indicated otherwise in writing by the LSKCK Representative to the Contractor, the Contractor shall include in his bid all labor and materials as necessary to clean up or stabilize the lead-based paint surfaces (on which his work will be installed) in accordance with all requirements of this Specification.

#### 3.2 CORRECTION OF EXISTING LEAD-BASED PAINT CONDITIONS

- A. Contractor shall correct to make safe all existing lead-based paint (LBP) where his work is to be installed. Safe corrections or stabilization of existing LBP shall comply with all sections of this specification as applicable.
- B. Contractor shall correct or remove lead-based paint or make provisions for working on lead contaminated soil or other surfaces near or at his work site.
- C. Prior to starting any work on the lead-based painted surfaces, Contractor shall as a minimum complete the following:
  - 1. All paint surfaces that have peeling or flaking paint shall be scraped with wet methods to remove all peeling or flaking paint. Lead removing agents may be added to water to facilitate scraping. Damaged areas 3"x 3" and larger shall be repaired prior to starting work. No scraping work shall be completed until the containment is operable and all worker protection as required by specifications is being used.

2. Clean wall thoroughly with soap and clean water and rinse all lead removal agents from the surface completely before any encapsulant is applied.
- D. Prior to working on existing ground or other adjacent surfaces to the Contractor's working area, the Contractor shall cover the ground with clean 6-mil. polyethylene to 10 feet from the work surface to collect all lead-based paint debris. Polyethylene shall not be reused from work location to work location; new material must be installed at each location.

### 3.3 COORDINATION

- A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.

### 3.4 APPLICATION OF ENCAPSULANT

- A. Encapsulation materials shall only be applied to surfaces which the Contractor has accepted as "clean and accessible and ready for" his work.
- B. All obstacles, other materials, cover plates, equipment, fixtures, etc. which are not to receive encapsulant shall be fully, securely and completely covered or completely "masked" to prevent Encapsulant being placed on them.
- C. Encapsulation coatings shall be applied in accordance with the manufacturer's recommendations. The Contractor shall not apply coatings during, but not limited to, the following conditions (unless otherwise permitted by manufacturer's printed instructions): snow, rain, fog, mist, when the relative humidity exceeds 85 percent, at temperatures less than 50° F. Installation shall be in accordance with manufacturer's recommendations.
- D. Encapsulation coatings shall be applied to the substrate in a continuous system as to seal the surface being coated. The number of coats required and coverage rates shall be in accordance with the manufacturer's printed instructions and recommendations.
- E. Areas that are lifting and peeling after the application of the coating shall be repaired by scraping until a good substrate is achieved which will provide for good adhesion of the Encapsulant. New application of the Encapsulant shall be feathered with the edges of prior applied Encapsulant.
- F. Encapsulants shall be applied only with equipment recommended by the manufacturer. 3.4

### CLEANUP

- A. Remove all overspray, spilled or dripped encapsulant from the surfaces which were not to receive encapsulant.



- B. Remove all masking materials from the areas that were "masked."
- C. Touch up the encapsulant wherever it may have been damaged or scratched.
- D. Remove all debris, tools, equipment and other construction items completely from the encapsulant work site and leave area completely clean.

### 3.5 WARRANTY

All Encapsulation workmanship and materials shall be guaranteed by the Contractor to be free of defects, failures and flaws for a period of one (1) year from the date of substantial completion. All defective material or workmanship shall be repaired free of charge to the LS2KP and/or Owner.

**END OF SECTION**

**SECTION 09952 - PAINTING**

**PART 1- GENERAL**

Paint and finish newly installed and abated (surface coating removal) interior and exterior surfaces, as specified herein, as shown on Attachment A, and as needed for a professionally complete and proper installation.

**1.1 DESCRIPTION A.**

**Definitions**

1. Paint - As used herein, means all coating system materials, including primers, emulsions, epoxy, lacquers, stains, varnishes, shellacs, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate, or finish coats. All such coatings shall have manufacturer's certification that leaded compounds do not meet or exceed 0.6 % by weight. All such surface coatings shall be low volatile organic compound (VOC) content, as defined and/or required by industry standards and regulations.

**B. Surfaces to be painted**

1. Paint newly installed and abated (surface coating removal) items to match the original color, to the Project Lead-Safe KCK's satisfaction or provide new colors from manufacturer's standard color chart as selected by the Project Lead-Safe KCK Representative. See Attachment A for specific items to painted.
3. Do not paint over any code-required labels, such as Underwriters' Laboratories and Factory Mutual, or any equipment identification, performance rating, name, or nomenclature plates.

**1.2 QUALITY ASSURANCE**

- A. Use adequate number of skilled workmen who are thoroughly trained, licensed and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section. Remove all workmen from the project site who in the opinion of the Project Lead-Safe KCK's Representative do not possess the necessary skills to complete the painting.
- B. Paint Coordination:

**SECTION 09952 - PAINTING**

1. Provide finish coats which are compatible with the prime coats actually used;
2. Upon request, furnish information on the characteristics of the specific finish materials to assure that compatible prime coats are used;
3. Provide barrier coats over non-compatible primers, or remove the primer and reprime as required.
4. Notify the Project Lead-Safe KCK's Representative in writing of anticipated problems in using the specified coating systems over prime coatings.

### 1.3 SUBMITTALS

- A. Comply with the pertinent provisions of Section 01302 - "Submittals" as applicable. .
- B. Product data: If so requested, the Contractor shall submit to the Project Lead-Safe KCK's Representative within five (5) days after request all manufacturer's specifications and technical information including paint label analysis and application instructions for each material proposed for use.
  1. If requested, Material Safety Data Sheets (MSDS) shall also be submitted to the Project Lead-Safe KCK's Representative for each different type of paint to be used.
- C. Samples
  1. Following approval of colors by the Project Lead-Safe KCK, submit samples for the Project Lead-Safe KCK's Representative's review, if so requested.
    - a. Provide a single sample of each color for each material on which the finish is specified to be applied.
    - b. Sample shall be provided on two (2) 8" x 10" wood surfaces for each type of material to be painted, and for each type of paint to be applied. Label and identify each sample as to location and finish.
    - c. Revise and resubmit each sample as requested by the Project Lead-Safe 2000 until the required color and texture is achieved. Such samples, when

approved, will become standards of color and finish for accepting or rejecting the work of this Section.

- d. The Contractor shall not begin painting until samples are approved by the L2KCK Representative.

#### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Materials shall be delivered to the project site in original, new, and unopened packages and containers bearing the manufacturer's name and label, and the following information:
  - 1. Name or title of material;
  - 2. Manufacturer's stock number and date of manufacture; 3. Manufacturer's name;
  - 4. Contents by volume, for major pigment and vehicle constituents;
  - 5. Thinning instructions (if any);
  - 6. Application instructions;
  - 7. Color name and number; and,
  - 8. Label with equal or exact wording stating "Paint does not contain lead in concentrations greater than 600 parts per million (ppm) or 0.6%. The labeling must, at a minimum, state the manufacturer's name, paint name, identifying numbers, date, and the lead content of the paint, or a statement that the paint contains no lead.
- B. Unused paint containers shall be stored in an acceptable area, however, storage of products at the site shall be at sole risk to the Contractor. Store materials not in use in tightly covered containers. Maintain containers used for storage of paint in clean condition, free from foreign materials and residue. Paint shall not be stored in an area where there is a risk of fire or combustion of vapors.
  - 1. Protect paint containers from freezing and excessive heat where necessary. Storage area shall be kept neat and orderly. The Contractor shall take all necessary

precautions to ensure that workers and work areas are adequately protected from fire and health hazards resulting from handling, mixing, and application of paints. The Contractor shall follow all manufacturer's instructions regarding application, use, thinning, and storage of materials.

### **1.5 PROJECT/SITE CONDITIONS**

- A. Water-based paints shall be applied only when temperature of surfaces to be painted and ambient air temperatures are between 50°F and 90°F, unless otherwise permitted by paint manufacturers' printed instructions.
- B. Solvent-thinned paints shall be applied only when temperature of surfaces to be painted and ambient air temperatures are between 45°F and 95°F, unless otherwise permitted by paint manufacturers' printed instructions.
- C. Do not apply paint in snow, rain, fog, mist or when relative humidity exceeds 85%, unless otherwise permitted by paint manufacturers' printed instructions. Do not apply paint to damp or wet surfaces, unless otherwise permitted by paint manufacturers' printed instructions.
- D. Paints may not be spray-applied if wind velocity exceeds 5 miles per hour.

## **PART 2 - PRODUCTS**

### **2.1 ACCEPTABLE MANUFACTURERS**

- A. Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:
  - 1. Devoe and Reynolds Company
  - 2. Glidden Coatings and Resins (Division of SCM Corporation)
  - 3. Benjamin Moore and Company (Moore)
  - 4. PPG Industries (Pittsburgh Paints)

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5. Pratt and Lambert
  6. Sherwin-Williams Company (S-W)
  7. Sinclair Paint Company
- B. Proprietary names used to designate materials are not intended to imply that products of named manufacturers are required to the exclusion of equivalent products of other manufacturers. All "equal" paints must be submitted to the Project Lead-Safe 2000's Representative for approval.

### **2.2 MATERIALS**

- A. Acceptable materials
1. Provide the best quality grade of various types of coatings as regularly manufactured by acceptable paint materials manufacturers. Materials not displaying manufacturer's identification as a standard, best grade product will not be acceptable.
  2. Only paints which are proven through container labels or a certified statement from the manufacturer stating that the paint contains less than 600 parts per million lead (or 0.06% lead by weight), and does not contain mercury will be acceptable.
  3. Use coatings which are appropriate for the substrate materials which the coatings are to be applied to. Oil-based coatings and elastomeric coatings shall be applied so as to be applicable and appropriate to the substrate receiving the coatings, resulting in a uniform, proper and professional long lasting finish.
- B. Undercoats and thinners
1. Provide undercoat paint produced by the same manufacturer as the finish coat.
  2. Use only thinners recommended by the paint manufacturer and use only to the recommended limits. Do not use thinners unless absolutely necessary.

### **2.3 EQUIPMENT**

- A. For application of the approved paint, use only such equipment as is recommended for application of the particular paint by the manufacturer of the paint and as approved by the Project Lead-Safe KCK

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Representative.

- B. Prior to use of application equipment, verify that the proposed equipment is actually compatible with the material to be applied, and that the integrity of the finish will not be jeopardized by use of the proposed equipment.
- C. The Contractor shall provide other materials not specifically described but required for a complete and proper installation, subject to the approval of the Project Lead-Safe KCK's Representative.

### **PART 3 - EXECUTION 3.1**

#### **INSPECTION**

- A. Contractor must examine areas and conditions under which painting work is to be applied and notify Project Lead-Safe KCK's Representative in writing of conditions detrimental to proper and timely completion of the work. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to the Project Lead-Safe KCK's Representative.
- B. Do not paint over dirt, dust, rust, scale, grease, moisture, scuffed surfaces, loose/delaminating surface coatings, or any other conditions which might be otherwise detrimental to formation of a smooth and durable paint film.

#### **3.2 PREPARATION**

- A. Materials Preparation
  - 1. Mix and prepare paint materials in accordance with manufacturer's printed instructions.
  - 2. Maintain containers used in mixing and application of paint in a clean condition, free of foreign materials and residue.
  - 3. Stir materials prior to application to produce a mixture of uniform density. Do not stir any film into the paint material. Remove film, and if necessary, properly strain the material before using.

**B. Surface Preparation**

1. Perform preparation and cleaning procedures in accordance with the paint manufacturer's printed instructions, and as specified in this Section, for each substrate condition.
2. Remove hardware, hardware accessories, machined surfaces, plates, lighting fixtures, and similar items in place and not to be finish painted, or provide surface-applied protection prior to surface preparation and painting operations. Remove, if necessary, for complete painting of items and adjacent surfaces. Following completion of painting of each space or area, reinstall removed items.
3. Clean wood and metal surfaces to be painted before applying paint or surface treatments. Ensure that all dirt, dust, loose paint, oil, and all other foreign substances are removed with (wet) scrapers, mineral spirits, HEPA attached sanders/grinders, sandpaper, or other means as necessary, without damaging any items.
4. Smooth finished all surfaces exposed to view, using the proper sandpaper. Where required, use varying degrees of coarseness in sandpaper to produce a uniformly smooth and unmarred surface.
5. Scrape and clean small, dry, seasoned knots and apply a thin coat of white shellac or other recommended knot sealer before application of prime coat. After application of prime coat, fill holes and imperfections in surfaces with appropriate waterproof putty or plastic wood filler. Wet sand smooth when dry.

**3.3 APPLICATION**

- A. The Contractor shall apply all paints, so as to prevent the possibility of fire or combustion of vapors.
- B. Apply paint in accordance with manufacturer's printed instructions. Use applicators best suited for substrate and type of material being applied.
  1. Provide finish coats that are compatible with prime paints used.
  2. Apply additional coats when undercoats, stains, or other conditions show through final coat of paint, until paint film is of uniform finish, color, and appearance.



Give attention to ensure that surfaces, including edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces, as indicated by paint manufacturer.

- C. Apply first coat material to surfaces that have been cleaned, pre-treated or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration (e.g. flash rust).
  - 1. In lieu of specific manufacturer's instructions, allow sufficient time between successive coatings to permit proper drying. Do not recoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.
- D. Apply materials at not less than manufacturer's recommended spreading thickness rate, to establish a total dry film thickness as indicated or, if not indicated, as recommended by coating manufacturer.
- E. Apply prime coat of material which is required to be painted or finished, and which has not been prime coated by others.
  - 1. Prime paint all surfaces within one hour after receiving permission from the Project Lead-Safe KCK's Representative to do so. The Contractor shall properly prepare all surfaces (e. g., remove rust, scale, dirt, dust, loose paint, etc.) prior to application of prime coat.
  - 2. Recoat primed and sealed surfaces where there is evidence of suction spots or unsealed areas in first coat, to assure a finish coat with no bleed/burn-through or other defects due to insufficient sealing.
- F. Completely cover surfaces to provide an opaque, smooth surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, laps, brush marks, runs, sags, ropiness, or other imperfections will not be acceptable.
- G. Match approved samples to completed work for consistency in color, texture, and coverage. Remove, refinish, or repaint work not in compliance with this Section, to the Project Lead-Safe KCK's satisfaction.

#### 3.4 CLEANING

- A. During progress of work, remove from the work site discarded paint materials, rubbish, cans, and rags at the end of each work day.
- B. Upon completion of painting, clean all glass, all spilled paint and all paint-spattered surfaces. Remove spilled and spattered paint by an appropriate manner, taking care not to scratch or damage any finished surfaces. All damage to all surfaces and components shall be repaired or replaced at the Contractor's sole expense, with no additional cost to the Owner or to the Project Lead-Safe KCK.
- C. At the completion of work, touch-up and restore all damaged or defaced painted and now painted surfaces to the Project Lead-Safe KCK's satisfaction.

### 3.5 PROTECTION

- A. Protect work of other trades, whether to be painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as acceptable to the Project Lead-Safe KCK.
- B. Provide "Wet Paint" signs as necessary to protect newly painted surfaces. Remove temporary tape, coverings and/or wrappings which are used for protection of all work and surfaces after completion of painting.

### 3.6 SCHEDULE

- A. Provide the following paint system types for the substrates, as indicated.
  - 1. Exterior wood and other Exterior Surfaces:
    - a. Low luster finish: 2 Appropriate finish coats over primer coats
  - 2. Metals:
    - a. Semi Gloss Finish: 2 Appropriate finish coats over primer coats
  - 3. Gypsum wallboard or other Interior surfaces
    - a. Low luster finish: 2 Appropriate finish coats over primer coats

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Window Troughs:

- a. High Gloss Enamel Finish: 2 Appropriate finish coats over primer coats 3.2

**WARRANTY**

The Contractor shall guarantee his workmanship and material for a minimum of one year from the date of substantial completion, from all defects, flaws, and finish failures. The Contractor shall repair all defective work at no cost to the Project Lead-Safe KCK or the Owner within the warranty year. All repair work shall match adjacent finishes and shall blend smooth and flush with the existing finish.

**END OF SECTION**

**SECTION 09953 - PHYSICAL REMOVAL OF LEAD-BASED PAINT**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Provide physical lead-based paint removal as shown on Attachment A, as specified herein and/or as needed for a complete, proper and professional abatement project. Various strategies for paint removal, as indicated for specific components on Attachment A, are as follows:
1. Chemical paint removers shall be used for all lead-based paint removal unless noted otherwise
  2. Use mechanical and/or abrasive blast abatement only on limited areas where the Project Lead-Safe KCK (LSKCK) Representative has approved and/or specified its use. Perform mechanical physical paint removal only when using negative pressure filtration (with full containment).
  3. Use mechanical and/or abrasive blast abatement only when chemical and hand strapping is not effective or when specified to be used.
  4. Mechanical and abrasive blast abatement shall be limited to the following area when approved.
    - a. Wood/Drywall Interior Partitions
      - (1) Sander equipped with HEPA vacuum
      - (2) Wet-scraping of loose material
      - (3) Flameless heat gun
      - (4) Planer equipped with HEPA vacuum
    - b. Steel, Metal, Concrete, Stone and Some Brick Surfaces
      - (1) Wet abrasive blasting
      - (2) Low volume, high pressure water blast
      - (3) Mechanical abrasion devices equipped with a shrouded head and HEPA vacuum

- (4) Flameless heat gun
- (5) Abrasive blasting equipped with shrouded head and HEPA vacuum

C. Related work:

- 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, all Sections in Division 1 of these Specifications and Section 02067, "Disposal of Waste Materials."

D. All work in this Section shall be conducted with "Work Area Containment," complete "Worker Protection" and "Project Decontamination."

1.2 SUBMITTALS

A. Comply with the pertinent provisions of Section 01302 "Submittals."

B. Product data: If so requested by the LSKCK Representative, the Contractor shall submit the following items in accordance with the "Submittals" schedule.

- 1. Materials list of items proposed to be provided under this Section;
- 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
- 3. Manufacturer's recommended application and use procedures which will become the basis for accepting or rejecting actual application and use procedures used on the work.

1.4 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained, licensed and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Perform physical lead-based paint removal work in cooperation with other trades. Schedule and phase work to facilitate use of the building by other trades as directed by the LSKCK Representative.

## 2- PRODUCTS

### 2.1 MATERIALS

- A. Chemical paint remover (stripper) shall be an alkaline solvent-based material or other chemical compound for removal of lead-based from a variety of substrates. (Methylene chloride agents are not permitted.)
  - 1. Chemical paint remover shall be a type that does not produce toxic fumes or contain flammable solvents.
  - 2. Chemical paint removers shall be in accordance with or equal to the following chemical removers, provided the chemical remover meets all the requirements of the Specification and other sections of the project manual.
    - a. "Peel Away" by Dumond Chemical
    - b. "Grip n' Strip" by American Building Restoration Chemical
    - c. "Re-Entry VPS Solvent - 2070T" by Environment Solvents Corporation
    - d. "Certane 401" by Certech Corporation
    - e. "Back to Nature II" by Dynacraft Industries
    - f. "Control Solvent Gel Paint and Coatings Stripper" by Grayling Industries, Inc.
    - g. "Enviro Strip #F" by Prosoko Inc.
    - h. "Safe-T Lead Strip" by International Protective Coatings
    - i. "SuperTech Type A Alkaline Paste Stripper" by SuperTech Products, Inc.
    - j. Other equal chemical removers

### 2.2 EQUIPMENT

- A. Hand tools as appropriate for scraping for use in removal of paint in conjunction with chemical paint remover, heat gun or lead cleaning agent. Tools shall be as recommended by the manufacturer of the chemical paint remover or as applicable.
- B. Heat gun (flameless) as appropriate to use in conjunction with scraping tools as applicable and as recommended by heat gun manufacturer. Heat guns must not exceed 1000°F. Use of propane torches or other flame-type devices is strictly prohibited.
- C. Only mechanical abrasion or paint removal devices equipped with a shrouded head and attached to a HEPA vacuum or filtration unit will be considered. Equipment used shall be

appropriate for the task as recommended by the equipment manufacturer. Equipment shall include sanders, needle guns, planers, and other mechanical abrasive equipment.

- D. Vacuum abrasive blasting as appropriate for the task and as recommended by the manufacturer.
- E. Wet abrasive blasting equipment as appropriate for the task and as recommended by the manufacturer.
- F. Additional worker protection (in addition to that specified in other sections of the Specification) for specialized paint removal methods.
  - 1. Provide eye protection for use with chemical paint removers and all mechanical equipment removers (i.e., abrasive, sanders, needle guns, etc.).
  - 2. Provide eye washing facilities when using chemical removers.
  - 3. Other abatement equipment and accessories: All tools, equipment and accessories as may be necessary to complete the requirements of the project in a proper and professional workmanlike manner.
- G. Provide rubber gloves resistant to the chemical used and chemical resistive disposable coveralls, hood and boot covers.

### PART 3 - EXECUTION 3.1

#### GENERAL

All physical removal of lead-based paint shall be in accordance with containment requirements, worker protection requirements, project decontamination, project clearance, and other specified requirements contained within the project specifications.

#### 3.2 CHEMICAL PAINT REMOVAL

- A. Protect the floor of the work area and surrounding surfaces that are not having paint removed. In addition to the work area containment polyethylene, install an additional sheet of polyethylene flush to the surrounding floors, ceilings and walls for a tight seal.
  - 1. Caulk the joint to avoid leakage of chemical remover below the polyethylene sheeting.

**PROJECT LEAD-SAFE KCK****LEAD ABATEMENT SPECIFICATION**

2. Absorbent pads may be placed below the surface being abated to help contain any excessive chemical material or spillage.
  3. Use waterproof duct tape to seal to adjacent surfaces not being abated.
- B. Application: Spray or hand trowel the chemical paint remover paste according to the manufacturer's specifications to 1/8" to 1/4" thick, dependent upon age, thickness and type of paint being removed. If spray applied, material should be applied with recommended spray equipment approved by the manufacturer to ensure proper application of product. Spray application is contingent upon LS2KP Representative's approval.
1. During spray application, no more than two workers (one person applying and one helper) shall be allowed in the work area.
- C. Cover chemical paint remover with paper, cloth or other material as recommended by the chemical manufacturer to prevent drying. Cloth shall be smoothed to remove all air. Remaining air bubbles shall be pierced with a knife and flattened.
1. Work area shall be properly heated or cooled to meet temperature requirements outlined in the manufacturer's specifications. Heating and cooling procedures shall be consistent with these specifications, subject to the approval of the LS2KP Representative and within all applicable codes, ordinances and regulations.
  2. Work area shall be completely secured and monitored during the application of the caustic paste, dwell time and removal of the paste to prevent accidental exposure.
  3. Allow chemical to stay on the paint to be removed the proper "dwell" time, as recommended by the manufacturer. Contractor shall run a series of test areas to determine the optimal amount of time for the chemical to stay on a particular wall or component for most effective removal.
  4. Cloth shall be removed by sliding putty knife, if possible, into paste around the edges of the cloth away from the surface in one piece. Do not rely on the adhering tension between the cloth and paste. Remove as much residue as possible with a tool before cleanup [procedure](#). **DO NOT ALLOW RESIDUE OF PASTE TO**



DRY. If necessary, lightly spray the remaining residue with water to keep moist.

5. Never remove material with personnel below or in a manner that would allow the caustic to fall on, splatter, or contact personnel in the vicinity of the removal. Take all necessary steps to minimize the fall distance of the paste/paint.
6. Repeat application as necessary for complete removal of paint. Scraping may be used to assist if wet scraping is used. At no time shall dry scraping be allowed.
7. Once removal of paint from the abated surface is complete, cleanup procedures shall then follow and include wash down of surface and neutralization per manufacturer's specifications. Apply caustic paste neutralizer (if required by manufacturer) in accordance with manufacturer's recommendations. Wash neutralizer off with water per manufacturer's instructions.

Apply second application of neutralizer over surface and allow to dry. After three hours or more or as recommended by manufacturer, wash neutralizer off with clean rinse water and allow surface to dry.

Contractor shall use pH paper to determine if neutralization is adequate. A dry surface showing a pH of between 6 and 8 after the proper drying-out period is generally ready to be recoated. A pH over 8 should be treated to another application of neutralizer and left to dry before retesting. It is most important that the surface properly dry out and that all residue is removed before recoating.

8. Once the neutralizing process is complete, the surface shall undergo normal cleanup procedures of HEPA vacuuming, lead sequestering detergent wash, and repeated HEPA vacuuming.
9. All accumulated debris resulting from removal of caustic paste shall be treated as hazardous and shall be properly stored and disposed of according to EPA, DOT, KDHE, and all other applicable Federal, state and local regulations.

### 3.3 EQUIPMENT USED FOR LEAD-BASED PAINT REMOVAL

- A. General: All use of hand tools, mechanical equipment or abrasive blasting shall use local exhaust ventilation, wet misting and/or spraying to keep dust from developing.
- B. Hand tools shall be used manually in a manner recommended by the manufacturer. Common lead-based paint abatement tools include putty knives, chisels, and paint scrapers.

- C. Heat gun (flameless) shall be used to soften the existing paint so it can be removed by scraping. Temperature of Heat gun shall not exceed 1000 degrees Fahrenheit.
1. Heat gun shall only be used in well ventilated areas (at least one air change every 15 minutes).
  2. Conduct a test area to determine the proper amount of heat to use to loosen paint without damaging substrate.
  3. Use preventative methods to protect adjacent surfaces that are not being abated, such as glass, wallpaper, telephone wires, etc.
  4. Take preventative measures to prevent creating a fire hazard from excessive heat. Provide a 10 lb. minimum fire extinguisher, rated ABC, in work areas where heat gun is being used.
  5. Provide adequate power cords and supply to prevent overload and/or overheating of electrical circuits providing power to heat guns.
- D. Mechanical Abrasion: Use wet mist, or spray to help keep dust down. Only use mechanical abrasive tools that are equipped with a shrouded head which is attached to a HEPA vacuum or other appropriate filtration system. Abrasive tools may include planers, scalers, needle guns, grinders, brushes and sanding discs or wheels.
1. Each tool shall be used in accordance with the recommendation of the manufacturer.
  2. Tools with a shroud should be used in direct contact with the surface being abated.
- E. Vacuum abrasive blasters shall be operated in accordance with the recommendations of their manufacturer. Blaster shall be equipped with a shroud which shall have direct contact with the surface being abated. Blaster shall be attached to a HEPA vacuum system.
1. Maintain vacuum system by emptying debris collected and draining filters as recommended by the manufacturer.
  2. All debris removed from the vacuum system shall be considered hazardous waste unless it is tested and characterized differently.

3. Complete work on a test area to determine proper blasting pressure and application time.
- F. Wet abrasive blasting equipment shall be operated in accordance with the manufacturer's recommendations.
1. Process shall be used in conjunction with chemical solvents or an abrasive material as recommended by its manufacturer.
  2. All fluid from the blaster, whether recycled to the blast pot or receptacle or not, shall be considered hazardous material unless tested and characterized differently.
  3. Complete work on a test area before approval to show amount of pressure and additives required to accomplish paint removal and amount of time for the application.

### 3.4 CLEANUP

- A. Cleanup work area, at a minimum, daily and more often during the day if surface dust is present. Clean for project clearance sampling in accordance with Section 01421.
1. Daily cleanup shall consist of removal of all debris from the work area and HEPA vacuuming and wet wiping. Cleanup shall be completed at the end of each work shift.
- B. Use negative air filtration and wet misting and spraying as necessary to assure that no lead dust remains in the work area at the time of final cleaning.
- C. Dispose of contaminated debris, consumable goods, cleaning materials, solutions or equipment in accordance with applicable Federal, state and local regulations.
- D. Durable equipment such as power and hand tools, generators, etc. shall be thoroughly cleaned before removal from the project area.
- E. If chemical removers are used:
1. Collect caustic paste cloth (if used) with paste/paint along with remaining residue and put into 6-mil polyethylene bags and dispose of in compliance with all applicable Federal, state and local regulations and these Specifications.
  2. Mist surface lightly with water spray. With a nylon scrub brush, agitate surface to loosen all residue. Thoroughly scrub surface being sure to get all crevices, grooves, cracks, etc. free of all residue.

3. Lightly spray clean water on surface removing remaining residue. A hand pump pressure sprayer may be utilized to facilitate debris removal. The use of a wet vacuum to assist in cleanup is suggested. Make certain that the entire surface is clean of any paste/paint residue. Allow to dry thoroughly before applying new finish.

### 3.5 REPAIR SURFACE

- A. Repair and repaint any and all damaged surfaces caused by the abatement process. Repair work shall match adjacent surfaces that are identical. All repair work shall be conducted at the Contractors sole expense, with no additional cost to the Owner or LS2KP. All completed repair work shall be approved by the LS2KP Representative.

1. Touch-up paint all scratches and nicks to match existing surface color and texture on areas not abated.

### 3.6 NEW PAINT FINISH

New paint shall be placed on abated surfaces in accordance with Section 09952, "Painting," unless noted otherwise.

**END OF SECTION**